Medical Times

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Should Daily Papers Have Medical Editors?

There can be but one answer to this question—yes.

As the teacher of the great mass of the people, the newspaper should present to its readers news when it is news and news that is true. One paper, and maybe many, recently published an item to the effect that a foot and lower leg, providentially cut off from a workingman by a train, had been grafted on another man whose limb had been amputated on account of blood poisoning. Interesting, but untrue and practically beyond the realms of surgical possibility.

Lest we may be criticized for dealing in generalities, we append some of the medical literature which has been taken at various times from the press:

"Of all the musical curiosities that nature has produced lately, one of the oddest is a man with a piano in his lungs. In a small Washington town is a man named Pearson, who can, without any undue effort, send forth remarkable melodies which sound like the music of a piano with a melodium accompaniment. This lung piano, as it is termed by the owner, is partly a gift of nature, but Pearson has cultivated the use of the extraordinary instrument very carefully and thoroughly, until now he is able to play several familiar tunes with wonderful expression and technique. Friends of Pearson say that his services are invaluable when church fairs, bazaars and country entertainments are on hand."—(*New York Herald.*)

"Prof. F. Trendelenburg, . . . inventor of the 'Trendelenburg Posture,' is visiting . . . in this city. . . . The Trendelenburg Posture consists simply of posterior operations by means of a specially contrived operating table, that in cases of a peculiarly delicate character have been remarkably successful."—(*Philadelphia Public Ledger.*)

"Dr. M. W. died suddenly of pleurisy of the brain."—(*Cincinnati Enquirer.*)

"— he became ill in this city with pulmonary peritonitis."—(*Cincinnati Enquirer.*)

"— a four-months-old . . . died . . . of what is known among surgeons as faraman ovale."—(*Philadelphia Press.*)

" . . . The fatal disease at Marfa has been diagnosed as 'Stopplococus,' an affection of the throat."—(*Galveston News.*)

"— ankersteleal nephortis. This disease makes the internal conditions worse than Bright's disease."—(*Fort Wayne Journal-Gazette.*)

"— ossification of the tissues of the bone."—(*Philadelphia Evening Bulletin.*)

"— earamyoclonus, a form of nervous prostration."—(*Fort Wayne Sentinel.*)

"— scurvy, a sort of bleeding at the lungs."—(*La Junta, Col., Democrat.*)

The *Wisconsin Medical Journal* of September, 1909, credits the usually cautious and correct Associated Press with having sent out this startling information concerning the illness of the late E. H. Harriman: "Last year there developed a difficulty at the point where the stomach connects with the intestines. This is sometimes called a rheumatic knot, sometimes rheumatism, and sometimes indigestion. It is at the point which is known in anatomy as the cæcum."

These are only a few of the many amusing squibs which have been gleaned from the papers, and we can scarcely be blamed for agreeing with the editor of the *Medical Standard* "that the sporadic items of information upon medicinal topics now appearing from time to time in the daily press are of so grotesque a character that they would be laughable if they did not have so serious a side."

The growing interest on the part of the public in medical affairs demands that those great educators, the newspapers, should carry truthful and helpful articles on medical topics. The layman of to-day is far wiser than he was twenty years ago.

"Some of his knowledge comes from the physician, some from the teacher in the schools, some from every-day reading, and some, unfortunately, from imbibing the untruths appearing in patent medicine and quack advertisements and the distorted quasi medical stories in the public press.

"This information—in many instances misinformation—is a decided detriment to the patient, and imbues him with false conceptions, induces self-medication, and is likely to destroy that feeling of faith and confidence in the medical profession which is so necessary if the physician is to bring about curative results.

"Therefore it becomes an essential that the public in its thirst for a wider knowledge of medicine be properly instructed."—(*Baketel, American Medicine,* January, 1910.)

There is no excuse to-day for the publication by a paper of untruthful medical news, for in every city reside physicians with newspaper training whose services as editors could be obtained. These men could and should see every proof on medical matters, as well as write such special and editorial articles as might be desired.

A few papers have already taken a stand in this direction. In addition to the New York *Sun* (*vide* the editorial page), the New York *Herald* has recently appointed Dr. J. J. Walsh, dean of Fordham University medical college, as its medical editor, and Dr. W. A. Evans, well known as the health commissioner who did things in Chicago, occupies a similar position on the Chicago *Tribune*. Other papers also have physicians as regular members of their staffs.

If there were more medical editors on the papers there would be fewer editorials like one on "The Microbe Fear" which recently appeared in the *Journal,* published in Columbus. the capital city of the State of Presidents:

"It is against the law to have a common drinking cup in a railroad train, and so a fellow has to travel a long way often without even a drink of water. This is pretty fine-haired hygiene, and the country is getting too much of it."

It is unnecessary to comment on the mental strabismus of a public teacher who gives utterance to such dangerous doctrine. The *Journal* of the American Medical Association, referring to this editorial, thinks the Columbus man "fears there is danger of the people of his State becoming too clean." He apparently is ignorant of the enormous amount of disease transmitted by the common drinking cup. Doubtless he does not know that the spirochetæ of syphilis find this death-dealing cup a favorite resting place from which to enter the mouths and systems of innocent children, men and women. Such remarks show how valuable the medical editor of the daily paper could be to the readers.

We present herewith the opinions of several editors of country-wide reputation and we express the hope that this discussion will arouse sufficient interest among newspaper editors to warrant them in adding to their staffs medical men, whose duty it will be to supervise the medical news in their columns and to prepare such articles as will aid and instruct their clientele, remembering that

"'Tis education forms the common mind;
Just as the twig is bent the tree's inclined."

MEDICAL EDITORS A REAL NECESSITY.

SIMON BARUCH, M. D.

Medical Editor of the New York *Sun;* Professor of Hydrotherapy in the College of Physicians and Surgeons of Columbia University.

NEW YORK.

A symposium on the advisability of a metropolitan newspaper having on its editorial staff a physician for the purpose of advising with regard to medical matter appearing in the paper, as suggested by the MEDICAL TIMES, is timely.

1. The interests of the readers, which are paramount, demand that all information or news published in his paper should be absolutely accurate as far as is possible. Upon this condition that master of journalism, the late Joseph Pulitzer, insisted as a sine qua non. Every medical reader is cognizant of the inaccurate character of most of the medical items in our lay journals, and we are therefore competent to judge the serious delinquencies of even the best managed papers in this regard. Indeed, this is one reason why many physicians abhor interviews and others decline them. These statements are usually obtained in haste, often by telephone; there is no opportunity for proofreading, and the result is but too frequently an inaccurate if not absurd publication of the doctor's views. All this may easily be remedied by judicious medical supervision, as I shall demonstrate.

Nowadays the metropolitan newspaper records the papers and discussions of many scientific bodies whose work interests the public. Editors are rarely equipped for discussing these topics and adapting them to the understanding of their readers. Moreover, the latter depend on the favorite newspaper to keep them informed on matters of hygiene, public and private, especially when a congress like that recently adjourned convenes. The latter received larger attention on the part of the lay journals than is usually accorded such discussions, because the managing editors realized the deep interest of the public in the preservation of health and saving of life, an interest of far greater import than any other.

To illustrate the necessity of medical censorship over the publication of the doings of scientific bodies even, I would refer to an editorial in the —— on "Curiosities of the Hygienic Congress," in which some absurd statements, according to the reports published by the Associated Press, passed unchallenged. A paper on the management of children was read in which the singular statement was made: "A child wants what it wants when it wants it" (food, etc.), and that "a child should be permitted to make its own moral code." It became my painful but imperative duty to point out that the author of these sensational propositions is not a pediatrist, and not even a practitioner, but a lecturer and writer. Personal considerations prevented comment on the impropriety of presenting these and other propositions to a scientific congress after they had been ventilated in a popular magazine (not a health journal). The reader was warned to accept this doctrine with reserve at least. Another statement made was to the effect that cold baths are useful tonics and that taking them often, even three times a day, would not be injurious. Coming from the halls of a scientific congress on hygiene, the unwary reader may easily be misled by its publication and editorial comment was demanded to neutralize any possible pernicious result.

With regard to the guarding of the reader against inaccurate news the following may serve as examples: Last winter a well-known and justly popular paper printed a whole column with striking headlines giving a telegraphic description of a wonderful surgical operation performed in Baltimore by Dr. Cushing. It was stated that the diseased brain of a man was removed and placed upon a clean cloth; the diseased portion was removed and replaced by the healthy brain from a recently deceased child, and the repaired brain was returned to its former position in the man's skull! This brilliantly headlined telegraphic news was published in a paper which opposes vivisection, a fact referred to in a medical editorial in one of its contemporaries. The minor inaccuracies encountered daily in the majority of newspapers on medical subjects are legion; not rarely the entertainment of these absurd views would disgrace any intelligent person. Let the following suffice:

(a) A telephone inquiry reached me regarding a wonderful discovery made in the laboratory of the University of Pennsylvania, to the effect that a living guinea pig had been produced by the injection of a salt solution into a female guinea pig. This "scoop" was naturally turned down, much to the chagrin of the reporter who had visions of emolument. Another prominent paper accepted and probably paid well for this startling news item. It was duly heralded in its columns. Its readers doubtless were surprised by a later repudiation of this marvelous story.

(b) In a metropolitan newspaper a wireless despatch was published announcing the brilliant news that *Le Martin,* of Paris, had published a symposium of "leading microbiologists who had agreed that bathing leaves the skin dirtier than it was before, and that a Japanese scientist had discovered that the number of microbes was increased threefold after thorough scrubbing with soap and water."

(c) A reporter informed me by telephone that he had written a fine "story" about a new cure for tuberculosis, saying that it had been held up at the office until he had obtained my consent to its publication. Mentioning the name of a man of whom I had never heard, he urged that he had seen the cases and was convinced of their genuineness. When he was asked if he or a reputable physician had observed these cases before treatment he replied in the negative, and became satisfied that his story was unfit for publication. Numerous cures for cancer, tuberculosis and other incurable diseases which seek to obtain free advertising in this way are frequently declined and readers have been spared many disillusions.

(d) A cable dispatch announcing the increase in height of a boy who had been subjected to treatment with thyroid gland was declined as improbable, but was published in other papers as a marvelous innovation. It was later announced that thymus gland had been used in this case, which, by the way, has not yet been authenticated.

(e) A recent issue of a prominent metropolitan paper published an excellent account of Dr. Carrel's discoveries in the Rockefeller Institute, the first part of which shows that it

lacked supervision of a medical editor which the last part betrays. In the former a *hypnotic plasma* is referred to, also *spenic* tissue, while in the latter all technical terms, like metabolism, embolus, etc., are made plain to the lay reader in parenthesis.

2. Aside from the reader's interests, which, of course, are closely interwoven with those of the paper itself, the latter must derive incalculable benefit from skillful censorship of all medical news. Moreover, a physician who knows the personnel of the profession is able to direct reporters or interviewers to the proper authorities when it becomes necessary to obtain the views on special topics. By this precaution would be excluded the views of men whom the reader may regard as exponents of medical thought, but who would be repudiated by the medical profession. A surgeon has often been quoted on a death from heart failure and a physician on a surgical subject because the interviewer consulted his own convenience in obtaining information. The paper which publishes, though inadvertently, news of this unreliable character must suffer in the estimation of its readers, who sooner or later become correctly informed on most subjects published. The financial loss incurred in publishing items of which those cited above are examples is obviously increased by telegraphic expenses, especially if transmitted by cable or wireless.

The medical editor should not be a figurehead; to him should be submitted all items of medical news for final decision, as is done in the office with which I am connected. In the absence of such a provision I should have declined the position. Judging from their occasional publication of correct medical matter, the papers referred to above ostensibly employ medical editors. It is obvious that these gentlemen were not consulted before the above-mentioned items were published, and which were doubtless paid for, and served only to gull their readers.

I must confess that medical editorial writing for a newspaper would have no attraction for me were I not convinced that I could serve the interests of suffering humanity and my colleagues incidentally. A half century's observation as a general practitioner has convinced me that physicians are the worst used members of every community, and that the fault is their own to a great extent. The doctor is happily still imbued with the true altruistic purity of good old Hippocrates; he is still under the intellectual dominance of the Hippocratic oath, though he be not called upon to subscribe to it in solemn ceremony. The people, on the contrary, regard him no longer with the awe of the olden time, nor even with the respect that his self-sacrifice and oft-unrequited striving for their benefit entitles him to, and which would unstintingly be meted out to the soldier, the statesman or other benefactor of society. Witness the fact that in all the history of mankind it remained for the twentieth century to offer the first public recognition of the labors of a physician in giving the Nobel prize to Dr. Alexis Carrel. The parks and public spaces of every city are filled with statues of great men, and especially of those whose chief distinction was war, the destruction of life, while those whose lives were dedicated to the *saving of life* are rarely held up to emulation or remembered in grateful recognition in history. Every schoolboy has learned of the greatness of Alexander, whose legios brought death and sorrow wherever they went, and who is regarded as the most consummate general of ancient times. What schoolboy has heard of Hippocrates, who lived a century later and who was the most consummate physician not only of ancient times but of all time? He not only gave to physicians a code of ethics that has survived ages, but his discovery of vis medicatrix naturæ, though cast into oblivion during the benighted centuries of medical history, is in this most enlightened epoch of medicine the guiding doctrine of all educated physicians. Alexander is honored by monumentum aere perennium; Hippocrates is not even known in his full glory to the profession of which he was the greatest exponent.

And history repeats itself in modern times. How many monuments have been erected to Harvey, to Jenner, to Virchow, to Robert Koch, or to Lister—men whose achievements have saved a thousandfold more lives than the "heroes" whose deeds, recorded in marble and bronze, have destroyed? This indifference to the claim of medical men to recognition is evident from the fact that they do not even enjoy the good will of their fellow men. Physicians sacrifice their material interests, their labor, comfort, health, and often life itself, that their fellows may live in health and happiness and be emancipated from disease and death. How are they requited? Legislators who are supposed to represent the communities for whose welfare physicians have striven at great personal loss pass laws invidiously discriminating against them and in favor of quacks who are their own enemies.

The mails and exchanges of the paper I edit medically are burdened with the maudlin railings of zoophils who value their pet dogs above their fellow creatures—by anti-vaccination, anti-serum faddists who write and declaim against all innovations, no matter how well substantiated by clinical experience. To convert these benighted people is a vain effort, but their unsupported assertions must be met in the open in order that their dangerous influence be neutralized by correct information.

Upon the subject of medical education, too, much ignorance exists on the part of the public, which can be enlightened only by instruction through the lay publications. The numerous quacks and so-called scientists, religious though they claim to be, must be exposed in all the nakedness of their mercenary practice. It has been a source of much interest if not amusement to me to receive a letter from Mrs. Augusta Stetson, opening with "Your article in the —— this morning is a just comment on the letter of Mr. Arthur Farlow," whom she goes on to characterize as not being "a genuine Christian scientist." By the same mail I received a letter from that arch enemy of Mary Baker Eddy, the author of "The Medico Religious Masquerade," commending me for having put the opposing Christian Science factions by the ears. "Your rebuke," wrote Mrs. Stetson, "will open the eyes of the people. Such letters as Mr. Farlow's betrays a loss of both the letter and spirit of Christianity." "I have been very much interested," Mr. Peabody wrote, "in your letters to the —— referring to Christian Science in the Canal Zone. . . . I had intended to send copies of my book to the President and Secretary of War before they modified their original order to exclude Christian Science, but the matter escaped my mind, and I am glad that you took up the cudgels in behalf of sanity in medicine."

The supineness of medical men in this matter also led me to send copies of my published letters on Christian Science in the Canal Zone to many prominent medical journals, urging the editors to open a campaign for the protection of the public and incidentally of themselves. Only three made comment on the subject, and in the most lukewarm fashion. I shall continue as far as in me lies to further and protect the interests of the calling to which my whole life has been devoted, and I know no more effective way of accomplishing this aim than by unsigned editorials in a metropolitan newspaper having a large and discriminating clientele.

There are some subjects which concern both physician and lay people, the former perhaps more deeply, which medical journals sedulously seem to avoid. Editorial comment in a lay journal may prove effective in arousing the attention of the medical press to the danger which menaces the profession and the people, for instance, from the rapidly growing use of proprietary drugs and their combinations in various fanciful forms. Often neither the drugs nor the proprietary combinations possess the curative properties attributed to them. They are exploited in many instances by certificates from more or less respectable doctors, some of whom are lured by the blandishments of the office visiting agent, who leaves free samples.

The so-called clinical reports on many of these drugs read quite like those written by the clergymen, school teachers and other impressionable people for patent medicines. No physician should prescribe a combination of the composition of which he is informed only by the man who is interested in its sale. The committee acting under authority of the American Medical Association is entitled to more credence. My editorials warn physicians against prescribing combinations with proprietary names and our readers are warned to avoid physicians who prescribe them, despite the fact that they seem to save doctors' bills by purchasing these drugs without the doctor's knowledge and perhaps give their friends the benefit of this surreptitiously acquired knowledge. They are also cautioned against the danger of self-prescribing or friendly ministration.

That the sympathies of my best colleagues are with me in these efforts to elevate them in the eyes of the public by pleading for fairness in their relations is frequently evidenced by letters from presidents of the best medical societies, from sanitarians, deans of medical schools, practitioners and specialists. One of these most encouraging letters came from a surgeon who has been the recipient of every honor that his colleagues in his city, county, state and nation could bestow, and who was my predecessor as medical editor.

It is to be hoped that this unvarnished statement may stimulate metropolitan journals to realize the advantages of a medical editor and to encourage physicians to accept this responsibility. In conclusion, let me say that I do not regard it as a function of a medical editor of a lay paper to give advice on the treatment of diseases. His sphere lies in sanitation and the protection of the reader against charlatanism in and out of the profession.

THE EDITOR OF VALUE, BUT DIFFICULT TO OBTAIN.

OSWALD GARRISON VILLARD.
President of the New York Evening *Post*.
New York.

The addition of a medical contributor or advisor to the staff of a metropolitan newspaper would be of the greatest service both to journalism and the profession, in our opinion. The only difficulty is that we should also like to add a scientific advisor, a legal writer and advisor, and experts in a dozen other branches. Unfortunately the limited support given by the public to a serious newspaper does not make possible these additions to the staff. It is also true that it is very difficult to obtain scientific contributors, in the medical profession and otherwise, who can treat of the subjects of which they are masters in readable English interesting to the layman.

A GOOD EXAMPLE FOLLOWED.

JAMES KEELY.
General Manager of the Chicago *Tribune*.
Chicago.

I think the position of the *Tribune* on the subject about which you write should be well known by the medical fraternity, the newspapers of the country and the ten million people who live within the radius of the *Tribune's* influence.

The *Tribune* was, I believe, the first paper to install a real medical department. We did this a year ago, when we engaged Dr. W. A. Evans, formerly health commissioner of the city of Chicago, whom everyone knows, to run a daily department entitled "How to Keep Well." This has appeared on the editorial page each week day and will continue, I hope, for a number of years under the direction of Dr. Evans.

Dr. Evans' activities are not confined alone to the columns of the *Tribune*. He answers several hundred letters a week and devotes a large portion of his time to lecturing.

When I inaugurated this department and retained Dr. Evans as editor I hoped that his sphere of influence would not be confined to the *Tribune*, but that the example we set would be followed by other newspapers, and my expectation has been realized.

A CAPABLE MEDICAL EDITOR AN AID.

FREDERICK ROY MARTIN.
Assistant General Manager of the *Associated Press;* Some Time Editor in Chief of the Providence *Journal*.
New York.

You ask an opinion as to the advisability of a metropolitan newspaper engaging a physician for the purpose of advising as to the medical matters that it publishes. In a general sense the more "brains" a newspaper can call to its service the better. A capable physician, if on call when matters affecting the health of the public are being treated, surely can aid in the accuracy and effectiveness of the articles printed.

From a practical newspaper point of view, however, experts in any scientific field are inclined to be over-technical in language and more valuable in the preparation of special articles than in fitting into the rapidly moving machinery of a newspaper plant. It is hardly effective to discuss in newspapers "anterior poliomyelitis" when all the mothers in a community are worried over infantile paralysis.

Yet if an editor has upon his staff an experienced physician whom he can consult or call upon for articles written in a popular vein the arrangement must be of value to the paper because of its service to the readers of that paper. As a great majority of the inhabitants of many of our largest cities read nothing but the daily papers, the power of the press in spreading intelligence along the lines of preventive medicine is incontrovertible. I was gratified not long ago to hear so eminent a physician as Dr. William W. Keen of Philadelphia acknowledge the great progress the press has made in assuming this important responsibility. Surely the more intelligently that power is directed the more beneficent its results. Equally certain is it that the more interestingly the physician can write the more considerable would be his value to the paper that he might serve.

THE MEDICAL EDITOR VERY NECESSARY.

LEIGH REILLY.
Editor of the Chicago Evening *Post*.
Chicago.

The *Evening Post* has always maintained upon its staff one or more men well grounded in the science and practice of medicine, and, of course, we consider these men very necessary members of the staff.

HARD TO FIND, NECESSARY TO HAVE.

JAY B. BENTON.
City Editor of the Boston Evening *Transcript*.
Boston.

Personally, I feel the importance of a medical editor on the staff of a paper or within easy reach for consultation. Anyone who has had to do with the handling of newspaper copy knows of the great liability for errors. Young reporters, even those who intend to be most careful, make slips that seem ludicrous to those who are familiar with medical affairs, and then the paper becomes a laughing stock. The desk man naturally tries to do his best, and catches many things in time. Whenever there is any doubt upon a subject I call up a doctor on the telephone, and thus it is almost as good as having a doctor in the building and in constant service on the paper. Of course, all editorial topics of a medical nature are given to expert specialists outside the permanent force, just as is done with any specific subject on which distinctive education is required. The danger of a doctor as a regular writer is that he will not hit the popular taste. He knows all about it for himself, and he can write for medical students, but he is apt to write above the heads of the average reader. It is hard indeed to find the one who can strike the happy medium and avoid technicalities in what he writes.

MEDICAL EDITOR RENDERS IMPORTANT SERVICE.

MELVILLE E. STONE,
General Manager of the *Associated Press.*
New York.

I think it would be a desirable thing for a daily newspaper to employ a physician on its staff to cover a department on public health. During the years I edited the *Chicago Daily News* I had a department of this kind edited by the secretary of the Illinois State Board of Health, and I found that not only did it do an important public service, but it also proved a profitable thing from a purely business standpoint.

PROPER NEWS PRESENTATION AN ESSENTIAL.

TALCOTT WILLIAMS, LL. D.
Dean of the Pulitzer School of Journalism of Columbia University; Some Time Editor in Chief of the Philadelphia *Press.*
New York.

Nearly thirty years ago, when "Science" was started under the kindly support of Mr. Alexander Graham Bell, the discoverer of the telephone, its editor said to me that he had discovered that he got better articles out of a journalist who knew nothing of science than out of a scientist who knew nothing of journalism. This is the experience of every newspaper man in dealing out the articles which are turned over by physicians on subjects relating to public health. Some physicians have the journalist's nose for news and capacity for exposition, as Dr. Neff, at present Director of the Department of Public Health and Charity in Philadelphia, has proved. He has furnished the newspapers through the year with articles, sometimes cautionary and sometimes informatory, which have always been printed and have sensibly improved the attention of tens of thousands of families to sundry rules of health.

Many health officers have sought to do this and their articles have gone into the waste-paper basket because, in the first place, they were not short, and in the second place they did not pick up the precise fact at opening which would attract public attention. As Mathew Arnold said of editorial writing, "It looks easy, but it is a trade which has to be learned." In reaching the public through the newspapers, knowledge of medical matters is simply raw material unless a man has the mingled instinct and training which enables him to present the knowledge that he has so as to attract the public. If a man has this and has also a medical education he can be most useful on a newspaper, but if he has a medical education and has not either personal ability or training in presentation he will add one more to the columns already too many in every newspaper which, to use the actor's phrase, "don't get across the footlights."

The amazing success of the *Lancet* in reaching the English public and securing one reform after another in the last sixty or seventy years has been due to the fact that it had at its head in the beginning a born journalist and its traditions have always been sound. No American can look over the *Lancet* and compare it with much that appears in American medical journalism without seeing that wherever a subject touches popular interest the English medical journal is on the watch for effective presentation. For some reason, which I do not pretend to explain, perhaps due to the fact that many American medical men have studied in Germany, the American medical article is too apt to be formal, didactic, not sufficiently equipped with grasp or an effective style.

It is for this reason that so many medical articles which reach the newspaper do not reach the public and would not reach the public if they were printed. Very much that is on a newspaper page is "printed and not published." The newspaper man understands perfectly that the sixteen or twenty pages of a newspaper are a hot competition. Each reader only looks at a fraction of them. He begins an article and drops it unless it interests him. He drops the newspaper unless it is bright, interesting and attractive.

The education of the American public in matters of medicine and hygiene can only take place through the American newspaper; but it will have to be done and can only be done by realizing and recognizing the conditions under which a newspaper works and understanding that to meet these conditions is more important than mere knowledge.

General Scientific

SUBPHRENIC ABSCESS.*

A. C. HEFFENGER, M. D.,
Past Assistant Surgeon, U. S. Navy, retired.
Portsmouth, N. H.

Subphrenic abscess may be defined as "any collection of pus or pus and gas, the whole or part of which intervenes between the diaphragm and the structures in contact with its lower surface." (Godlee.)

The supposed rarity of subphrenic abscess and the extreme difficulty of its diagnosis, caused it to be practically unknown till Barlow described it in 1845. The first reported case, however, was that of Veit (1779), in which the abscess was situated between the diaphragm and the right lobe of the liver. Von Volkman, (1879) was the first to demonstrate that an abscess below the diaphragm could be treated surgically. His operative success stimulated general interest in the disease, especially its causes, anatomic relations, diagnosis and treatment. A year later Leyden made a valuable contribution to the literature of the subject, and Cossy in France published at the same time (in the *Archive Generale de Medicine*) an article on "Pneumothorax caused by gas proceeding from the digestive tube." These were soon followed by a masterly paper from Maydl. Notable contributions have been made by the Americans, Weir, Beck, Berg, and Ross, the latter taking radical departure as to its cause in the majority of cases, and devoting his entire paper to "Subphrenic abscess of appendical origin."

The voluminous literature of recent years has added much to our general knowledge of the disease, and impressed upon us its comparative frequency and vast importance. On two vital points, however, it has often been misleading, that is, in respect to most frequent cause and location of the abscess. The impression is generally given that subphrenic abscesses are most often found on the left side and are the result of perforating ulcer of the stomach. Ulcer of the duodenum comes next as to cause, with appendicitis and other causes following.

At the present day this view point is reversed with statistics clearly proving that right-sided abscesses are more frequent, and that secondary infection from the appendix is the ranking cause.

Hunt in 1904 stated that left-sided subphrenic abscesses were met with more frequently than right-sided, and in only 1 of 19 cases due to gastric ulcer did right-sided abscess occur.

Douglass in 1903 states that "Usually such collections of, or pockets of pus, are to the right side of the falciform ligament of the liver." Then contradicts himself by saying, "Gastric ulcer takes first rank as a cause of subphrenic abscess." This is the old story of perigastric abscess becoming subphrenic.

Moynihan in 1905 begins his description of subphrenic abscess by stating that it is "an abscess beneath the diaphragm, between it and the liver; may be either intraperitoneal or extraperitoneal; it may lie to the right or to the left of the suspensory ligament of the liver. The intraperitoneal form is

*Abstract of a paper read at the 1912 meeting of the New Hampshire Medical Society.

more frequent than the extraperitoneal, and the abscess is more commonly found upon the right side."

Ross infers from statistics he has gathered that:

1. Subphrenic abscess following appendicitis is more common than formerly was supposed.

2. It occurs in from 0.5 per cent. to 1 per cent. of all cases of acute appendicitis.

Kelly and Hurdon, Boston City Hospital, in course of 400 consecutive autopsies, encountered 13 subphrenic abscesses of which 7 were of appendical origin.

German Hospital, Philadelphia, records show that appendicitis as a cause outranks all others combined.

Barnes reports 12 cases of subphrenic abscess of appendicular origin. All of which were on the right side.

Of 31 cases reported from the German Hospital, Philadelphia, 29 were on the right side only, 1 was double, right and left, 1 was on the left side only.

Unquestionably the statistics quoted substantiate the previous statement that subphrenic abscesses are much more frequent on the right side, and that the appendix is the chief source of mischief. The reason for this is that the appendix is the most frequent source of abdominal infection, and the existence of anatomic arrangement for conduction and gravitation from this focus to the diaphragm. Although septic extension from this point to the diaphragm may be through the lymphatics behind the peritoneum, through the peritoneum itself (McCallum), or through the ascending mesocolon, gravitation is the chief cause.

Coughlin says: "Since 1900 I have frequently demonstrated to students in anatomy the fact that with the body supine, the lowest point in the pelvic cavity is from 4 to 6 inches lower than the upper margin of the symphysis pubis, while with the body vertical (standing or sitting) the lowest point in the pelvic cavity (peritoneal) is from 1½ to 2½ inches below the upper margin of the symphysis pubis; that the lowest points in the abdominal cavity with the body supine and horizontal are in the neighborhood of the mid-points of the external arcuate ligaments and that with the body supine on the table a greater thickness of wall separates the pelvic cavity from the table than separates the abdominal cavity from the table in the neighborhood of the ligamenta arcuata externa. For the past three years I have used the lateral position with the upper part of the body raised to about 30 degrees with a pillow under the body above the iliac crest and drained below the internal to the anterior superior iliac spine in all suppurative conditions in the lower abdomen in which I thought drainage indicated, always turning the patient on the side most involved. I find it more satisfactory." To substantiate his views he has made a number of interesting experiments by injecting water into the abdominal cavity of the cadaver and then attempting to withdraw it in various positions, and arrived at the following conclusions:

(1) "The pelvic cavity could not be completely drained of water by raising the supine body even to 90 degrees 'bolt upright.'"

(2) "The pelvic cavity could be completely emptied of water by turning the horizontally placed body just more than midway between pronation and supination."

(3) "Water found its way from the left loin to exit just below and internal to the right anterior superior iliac spine with the body raised to 45 degrees in the right lateral position."

(4) "With a distended condition of the intestines, although water gravitated less rapidly, practically the same results were obtained."

(5) "Although water found its way from the left loin, as above stated, it did not so easily find its way from the right loin to exit just below and internal to the left anterior superior iliac spine; no matter how high the left laterally lying body was raised a quantity remained in the right loin."

Among the many other causes of subphrenic abscess are the following:

The intestines. Colon bacillus, amoeba.
Hydatids. Echinococcus.
Pelvic suppurations. Gonococcus.
The liver and its ducts. Colon bacillus mixed infections.
The kidneys, The spleen, Wounds. } Mixed infections.
Ribs and spine. Tubercle bacillus.
The thorax. Pneumococcus, T. B.

As subphrenic abscess is always a secondary disease, its bacteriology is that of the causal focus.

Right-sided abscesses are usually due to infection from the appendix, cecum, colon, right kidney, liver and bile ducts, hydatids, ribs and spine, pleura, pelvis and portal circulation and trauma. Those on the left side, stomach, duodenum, spleen, left kidney, intestines, ribs and spine, pleura and trauma.

Barnard classifies all subphrenic abscesses according to their position as regards the falciform and lateral ligaments of the liver as follows:

A. Intraperitoneal—1. Right { I. Anterior. II. Posterior.
2. Left { III. Anterior. IV. Posterior.
B. Extraperitoneal { V. Right. VI. Left.

A right anterior intraperitoneal abscess is one situated between the upper surface of the right lobe of the liver and the diaphragm.

A right posterior intraperitoneal abscess is one in the subhepatic pouch, a pyramidal space bounded laterally by the abdominal parietes, in front by the liver and gall bladder, posteriorly by the abdominal parietes, and having its apex formed by the upward slope of the margin of the left lobe of the liver.

A left anterior intraperitoneal subphrenic abscess or perisplenic abscess lies in the fossa formed by the diaphragm above, the left lobe of the liver below and to the right, and the spleen to the left. It is bounded sharply to the right by the falciform ligament.

A left posterior intraperitoneal subphrenic abscess is one situated in the lesser peritoneal cavity.

A right extraperitoneal subphrenic abscess is one formed in the cellular space between the layers of the coronary and other peritoneal ligaments of the liver.

A left extraperitoneal subphrenic abscess is one formed in the retroperitoneal cellular tissue of the left loin.

An extraperitoneal subphrenic abscess does not extend over the diaphragm, except at such sites where it is free from peritoneum, i. e., between the ligamentous folds of the liver. The general peritoneal covering of the diaphragm is too closely adherent to allow its free separation by pus dissection.

Clinically, it is impossible to say whether a subphrenic abscess located among the ligaments of the liver or in the left loin, is of intra or extraperitoneal origin, and surgically it is of little consequence.

Pique has made special study of the anatomic situations and relations of subphrenic abscesses, as well as their mechanism of limitations, and the varieties and routes of infection.

He divides subphrenic collections of pus into three zones.

1. Hepatophrenic.
2. Hepatogastro phrenic.
3. Perisplenic;

and as to frequency of infecting focus.

1. Appendix.
2. Stomach.
3. Duodenal and other foci.

He emphasizes the frequent excursions of these abscesses into the thorax and pelvis.

SYMPTOMATOLOGY AND DIAGNOSIS.

Subphrenic abscess being a complication of a preceding condition, the symptoms of the original disease must be carefully considered, and deductions drawn therefrom. As Douglas has pertinently stated: "There is no one symptom or set of symptoms constantly present and pathognostic of subphrenic abscess. The very obscurity of its symptoms makes it at once interesting and dangerous. The existence as extra and intraperitoneal collections of pus, its development upon the one side or the other, or upon both, the presence or absence of gas, are conditions giving rise to varied symptomatic features." A septic history stands first in importance, and secondly thoracic symptoms at the base of the lungs. Given a history of appendicitis, or other localized abdominal or pelvic peritonitis, general peritonitis, or a pus focus in any of the abdominal or pelvic organs, with subsequent development of obscure symptoms in the region of the diaphragm, suspect subdiaphragmatic abscess. These abscesses may occur at any age when of appendical, tubercular, or traumatic origin; but usually occur after 40 when gastric ulcer is the cause.

Willy Meyer reported a case in a girl of 12 secondary to an appendix.

The onset may be insidious or fulminant, depending upon the mode of infection, its situation, and the rapidity of invasion.

A sudden perforation of a viscus under the diaphragm, with no, or only frail preceding adhesions, gives a stormy onset, with pleural pains, high temperature, and other symptoms of acute violent sepsis of the upper abdomen or lower thorax.

When it is remembered how thin the tissues are which separate chest from abdomen, it is readily understood why these double cavity symptoms are at once in evidence.

Besides pleural pain, with rigidity of lower chest wall, rales, dullness, and fremitus are generally found. Pleuritic effusions may become marked, and be followed by empyema. Infection of the pleura may occur from below the diaphragm by continuity or contiguity. Ross reports 7 lung extensions in 31 cases. A subphrenic abscess may rupture the diaphragm, and discharge into the pleural cavity. Maydl reports perforation of the diaphragm in 65 out of 179 cases, and Lang 67 out of 163 cases. Infections of the pleura without perforation, Maydl recounts 14 times in 25 cases; Sachs 22 times in 41 cases; and Gruneisen 17 times in 27 cases.

On the other hand, a basic empyema may infect the subdiaphragmatic region, and cause a double abscess, with the diaphragm intervening. The presence of gas in the abscess cavity, which usually occurs in about half the left-sided cases, whether perforation of a hollow viscus has occurred or not; and rarely on the right side, shows that gas may be due to the presence of a gas-forming bacillus, either the bacillus aerogenes capsulatus (Welch), or the paracoli bacillus aerogenes.

In 27 subphrenic abscesses of appendical origin, Gruneisen found gas to exist 5 times without perforation. Pique says it is certain there are gaseous abscesses with or without perforation. Pus in either kind is generally putrid, and fecal if the colon bacillus is present. When gas is present, and an empyema or pleuritic effusion exists above, the diagnosis becomes still more complicated, for here there are four different percussion zones. From above downward lung resonance, dullness, gas, and dullness. This condition was named by Leyden pyopneumothorax subphrenicus. Of course in a pyopneumothorax there are only two zones; air from the top of the chest cavity to the pus level, and pus from there to the diaphragm. Localized pain, tenderness, and bulging of the chest wall may aid in deciding a pleural effusion, while the same signs at or below the diaphragmatic line may determine subdiaphragmatic pus.

In case of subphrenic abscess from chronic perforation of the stomach, Mayo-Robson elicited the following sign: "On placing a stethoscope over the eighth intercostal space, which region was dull on percussion, and on placing a coin over the stomach and percussing it with another coin, the sound was distinctly conveyed through the whole of the abscess cavity and through the stethoscope to the ear." Diagnosis confirmed by operation.

These complex thoracic and abdominal symptoms may be differentiated to a certain extent by percussion and auscultation, and a fairly rational diagnosis made, but aspiration is the most important diagnostic aid, and should be done as soon as there is the least suspicion of pus under the diaphragm. It can be done painlessly under general anæsthesia, or practically so under local anæsthesia.

A large size needle is necessary, as the pus is often viscid and refuses to flow through it. A fibrinous exudate on the diaphragmatic pleura or peritoneum, may also clog the needle.

The needle should first be pushed between the seventh and eighth ribs in mid-axillary line, and directed forward and downward. As it passes through the pleura clear fluid or pus may be seen, and further down the resistance of the diaphragm is felt, and as it is pierced, pus from the subphrenic abscess escapes.

By shutting off the aspirator stop-cock, and detaching the needle from the tubing, the pus odor may be tested, which in case of colon bacillus infection is characteristically bowel—and this tells at once the source of infection.

Should nothing flow through the needle it may yet be in a gaseous cavity, and a flame may ignite escaping gas, or the handle of the needle may be put under sterile water and bubbles of gas be seen traversing it. Should a dirty bloody fluid containing shreds of red tissue be drawn, an hepatic abscess has been entered. If nothing is found after pushing the needle in several directions, it should be withdrawn and washed with sterile water for a culture. Another mode of needling is to insert the needle from below under the 10th rib, and push it upward and inward, changing the direction of the point several times till pus is found or the safety area is exhausted. Care should be exercised that no hollow viscus is penetrated. It is best to be prepared to operate at once should pus be found, no matter what the condition of the patient may be. In extreme condition, death is probable any way, and evacuation of pus with free drainage is the only hope.

Finally our means of diagnosis are not exhausted till the Roentgen-rays are used. They are especially useful if the pleura is not involved. The presence of gas gives a clear field above a dark shadow. By shaking the patient while using the fluoroscope, the fluid may be seen taking different levels.

The prognosis is always grave, though varies with the source of infection, location of abscess, and time of operation.

Death generally results from sepsis.

It is possible for a subphrenic abscess to heal spontaneously through perforation into a hollow viscus, or discharging externally, but expectant treatment usually results in death.

The fulminant cases may die in a day or two, whereas those due to slow absorption may last for weeks or months.

Sach's statistics show that of those operated within three weeks 15.3 per cent. died; while those operated later 50 per cent. died.

Maydl places the general mortality at 56 per cent. Elsberg at 40 per cent. With operation Gruneisen places it at 33.5 per cent., Maydl 35.7 per cent., Sonnenberg at 44 per cent., Sachs at 37.5 per cent., and Elsberg at 22 per cent.

Without operation Sonnenberg puts the mortality at 55.5 per cent., Sachs at 71.5 per cent., and Elsberg at 82 per cent.

Lang reports 176 cases in which 47.9 per cent. recovered after operation, and 12.3 per cent. without it. Of the 31 cases reported by Ross, all due to appendicitis, 22 died. Of these 13 had been diagnosed and operated; and in 9 cases the diagnosis was made post mortem.

Mayo clinic during 1908-9-10, under laparotomy, reported 11 cases operated, with two deaths. Location and character of abscess not given.

Operation: As these cases are of extreme gravity, and are always secondary to some other lesion, or septic focus, early recognition and operation upon the causal focus would of course prevent their development. Subphrenic abscesses, however, when seen by the surgeon, are generally well developed and large pockets of pus are usually found. Of course immediate evacuation of these pus pockets, with free drainage, is demanded. Incision and drainage of the abscess having been done, the next step is to search out and remove the original cause. It must be borne in mind that distant pus pockets due to extensions from the original or secondary septic foci may exist from the lungs to the pelvis, and they must be found and thoroughly examined. In this connection it may be well to recall attention to the quotation from Barnard, in which he illustrates so graphically the extension of abdominal sepsis through gravitation.

A subphrenic abscess may be reached from above the diaphragm or below it according to its most prominent presentation. When there is a decided presentation, incision should be made through it. The usual incisions are:

1. Through the anterior abdominal wall-epigastric.
2. Along the costal border.
3. Transpleural, through the chest wall and diaphragm.
4. Combination of thoracic and abdominal after Moynihan.
4. Through the loin, Lannelongue.
6. Through the back, Lund.
7. Aspiration, with trocar and tubal drainage, Cantlie.

1. The epigastric incision is used in those large bulging abscesses which generally result from gastric perforation. It should be free enough to permit of wide search in case the abscess is not at once reached. After reaching and evacuating the abscess, its cavity is well explored for deep pockets which almost always exist, and may demand counter incision lower down. Tubal or gauze drainage or both may be used according to indications.

2. The costal border incision is made about four inches long and carried through all structures to the peritoneum. Here blunt dissection with the finger is made till pus is reached, when the cavity is opened and emptied, and the direction and limits of the abscess determined. Tubal drainage is used. Von Mikulicz recommends this technic in extraperitoneal abscess.

3. In the transpleural route, the technic of Elsberg gives best satisfaction. An incision about four inches long is made over the 9th and 10th ribs on the right side, and 7th and 8th ribs on the left side, and, if possible, the middle of this incision should be at the point where pus has been drawn; practically in the axillary line. About two inches of the ribs are resected, when the pleural cavity is inspected. If it is healthy or contains clear fluid, it must be protected from infection by stitching the two surfaces, the diaphragm and the chest wall together and packing off with gauze. If the diaphragm is not bulging markedly upward, which it generally is from pressure of the subjacent abscess, an assistant pushes the liver well up, when the diaphragm is caught with forceps and incised, the cut edges being held open till evacuation of pus is complete, when the direction and extent of the cavity is determined and counter opening made if needed. Tubal and gauze drainage should be used.

4. The combined thoracic and abdominal incision was introduced by Moynihan to secure more thorough drainage. He carries the thoracic incision on to the abdomen, thus freely opening the cavity above the liver, and then packs it with gauze.

5. Through the loin: Lannelongue. In this operation the 11th and 12th ribs are resected, and the pleura pushed up by blunt dissection till the pus cavity is reached.

6. Through the back, as recommended by Lund. When pus is not actually on top of the liver, he opens from behind the angle between the 12th rib and the vertebral column, an incision being made as if to cut down on the kidney, the fingers being pushed up through the perirenal fat above the kidney until the abscess is reached and drained. In right-sided cases if the pus is actually on top of the liver, he thinks the transpleural route the best. Under other circumstances he prefers the route through the back. This technic is especially useful in extraperitoneal abscess.

7. Cantlie's operation, in which the abscess is located by aspiration, a large trocar and canula being then substituted for the aspirating needle, and through the canula is introduced a rubber tube which is held in place as the canula is withdrawn, and stitched to the skin, with siphon drainage.

The two cases upon which I have operated were both right-sided and the transpleural route was used in each. Both were successful, and the patients made good recoveries.

A CASE OF HEMOPHILIA.

M. G. Burch, M. D.,
Resident at Arnot-Ogden Memorial Hospital.
Elmira, N. Y.

Hemophilia is a curious and rather rare hereditary "condition" characterized by profuse and uncontrollable hemorrhage, occurring either spontaneously or following the most trivial injury.

On the night of November 14, 1911, the police brought to the hospital a man with the story that he had received an injury to his right eyelid and that a physician had been unable to stop the hemorrhage. On examination the injury proved to be three small bleeding points about the size of the head of a pin. A tight bandage was applied and, the patient being in an intoxicated condition, he received no other treatment at the time. The following morning the dressing was saturated with blood and the first thing he said was, "Doctor, I am a bleeder." The man, who proved to be very intelligent, gave the following interesting family history:

R. C., white, 32, canvasser, married, medium height, weighs 120, dark hair and eyes, skin noticeably thin and pale. His maternal grandfather was a "bleeder," who died at the age of 66, but one of his brothers died of uncontrollable hemorrhage. The inheritance came through the mother, who was not a hemophilic. The patient's maternal grandparents had five children, one male and four female, all free from the difficulty. The male had no children. Of the four girls, two had male children with hemophilia, while one had four daughters free from the inheritance and the other had no children. The patient's aunt had six children, two girls, who were unaffected, and four boys. Of these one is free at the age of 25, another is living at the age of eight with hemophilia. The other two are dead as the result of hemophilia, one dying at the age of 13 of pneumonia, being a "bleeder" and the other when 21 of hemorrhage, following an operation on the eye.

The patient's own family history is even more interesting. He was one of eight children, one female and seven males. The girl was the first child and died at the age of nine months from a cause unknown. Of the seven males two besides the patient are living but are not hemophilic. Of the four who are dead, one died aged 18 months, as the result of a "hemorrhage from the mouth." One, a three-year-old, while running, fell on a pair of scissors, receiving a laceration of the face which bled until death occurred. Another boy six years old was a bleeder, but died of what was called spinal meningitis, probably hemorrhagic in origin. The fourth brother lived to be 33 years old, when he died from hemorrhage from the rectum. In this case an autopsy was performed and no points of hemorrhage were found, although the vessels looked as "if they had melted away." This same brother had been in a hospital for six weeks under treatment for hemorrhage fol-

lowing the extraction of a tooth. At that time the hemorrhage was controlled by having the patient hold vinegar in his mouth for several hours at a time.

Another matter of interest in the family history is that the females in line of inheritance showed a marked increase in menstrual flow. In the summary of the family history in this case it is seen that it follow's Nasse's law, the inheritance being transmitted through the females of one generation to the males of the next generation, thus skipping a generation. The father of these children died of heart disease.

The patient is a native of New York. During his early childhood days he was troubled with epistaxis, which would last for several days; in fact his nose bled so easily that when he wished to avoid school he would pick his nose and several days' vacation would follow. When he was still young he says he suffered from rheumatism. At times after sitting in school for several hours on attempting to walk it would be impossible and it was necessary to move him. He remembers having at these times pain, heat, swelling and redness of the joints and that his recovery was slow. From his description it is evident this was spontaneous hemorrhage into the joints, which seems typical of cases reported. He still has these attacks, but with no regularity. At a proper age he was told of his inheritance and was taught to mould his life accordingly. When 23 years old he received an injury just below the lower lip, requiring two weeks to control the hemorrhage. He constantly carries a bottle of adrenalin and the slightest scratch receives prompt attention. From time to time his lungs have been examined for tuberculosis because of the frequent expectoration of red blood. He has lost several pints at a time from hemorrhage from the nose which usually came on at night awaking him from a sound sleep. He has never weighed over 120. He has a longing for meats after hemorrhages and has found that altitude increases the tendency to hemorrhage and that warm weather lessens his attacks.

When the patient was seen on the morning of November 15th, I found over the eye a heavy dressing saturated with blood. A new dressing was applied and a sedative given. A few hours later he told me that early the night before while in a joyful mood he had allowed a local barber to apply leeches to his eyelid to remove the discoloration from a black eye. The wound consisted of three bleeding points, three cornered as if made with a large spear shaped surgical needle. The blood oozed from each point and was bright red with no suggestion of a clot.

Before a positive diagnosis was made, although the patient had said he was a bleeder, stypticin, ¾ gr., was ordered hypodermatically every four hours and by mere luck the hypodermis did not produce bleeding points. The wound was cleansed, adrenalin solution applied, and tightly bandaged. The patient asked for an opiate, saying he used ½ gr. of powdered opium every fifteen minutes until asleep when he had uncontrollable epistaxis. His pulse was 76 and of poor quality. An examination of the cardiac area revealed a presystolic whirling murmur over the apex, probably hemic in origin. Blood pressure was somewhat below normal. In the examination of the blood, about 2 c.c. were run on to a slide and it remained jelly-like for over an hour, when it became dry, but without the separation into serum and clot. The white blood count was nine thousand, a marked leucocytosis, and the red blood cells numbered eight million. A blood smear showed the red blood cells normal in size and shape, pale, and on careful search no blood platelets could be found. There was no marked increase in any kind of leucocytes but there were many involution cells especially among the eosinophiles. The hemoglobulin was 75%. The urine examination was negative, as was the remaining physical examination.

For the first day adrenalin solution was applied, stypticin administered and the patient kept quiet with opiates, but still the hemorrhage continued. The second day suprarenal powder was put on the wound and the internal medication was changed to calcium chloride, a dram every three hours. The patient's color became paler and the pulse more thready, and normal salt solution was given by rectum. A very noticeable effect was produced. As expressed by the patient, "It made me feel like a new man; every vessel in my body seemed to fill up." But the bleeding still continued. During that night another attempt was made to stop the hemorrhage, as an effusion of serum had taken place around the eye. Tincture of the chloride of iron was applied, opiates given and the normal salt discontinued. The hemorrhage was checked, but only until the following morning when it again began. During the third day an attempt was made to stop the bleeding by clamping the whole eyelid. A special instrument was passed under the lid, while the anterior part including the wound, was clamped down, but the hemorrhage increased and the patient suffered great pain. On the fourth day, when the patient's vitality was very low, we took a chance of Monsell's solution causing slough. It was applied and then the whole area was painted with collodion. Following this there was more or less oozing of what appeared to be serum from the conjunctiva, but hemorrhage did not occur around the collodion. The patient was watched very closely for a few days and then restorative measures were used. At the end of a week the collodion came off and an area of granulation tissue about the size of a dime was found underneath. Not once after the hemorrhage stopped did the patient crave an opiate. He stayed in the hospital three weeks and was in fairly good condition when discharged.

Many theories as to the pathology of hemophilia have been advanced but none proven. In this case there can be no doubt that there is some chemical substance lacking in the blood which should be present in coagulation. This substance bears a close relation to the blood platelets, or it may be their presence which causes fibrinogen to form fibrin in the clot. It seems to me this is the most feasible explanation of the pathology of the case related. We should have tried animal blood serum in this instance but at the time it was impossible to obtain it. In the few cases reported the serum has been fairly successful.

The case of R. C. is rare, as very few hemophilics live long after childhood and when they do the condition seems to spontaneously cure itself and they die of some other disease. A fairly large number of bleeders have been reported but they do not have the direct inheritance of the above case, and are no doubt due to some pathological condition of the arteries rather than of the blood. R. Kolster reported fifty families where he found hemophilia and of these only 18 followed Nasse's law. He also states that most of them died before the second year, few lived to puberty.

Loeffler Method of Sputum Examination.

C. S. Williamson, Chicago (*J. A. M. A.*, April 6), speaks of the advantages of the Loeffler modification of the original Uhlenhuth antiformin procedure for sputum examination. He repeats Loeffler's description of his technic in detail and strongly recommends it, not only from the standpoint of exactness, but also because of rapidity and simplicity. His opinions are summed up in the following: "1. The Loeffler method will, under ordinary laboratory conditions, show tubercle bacilli in about 37 per cent. of sputa in which the organisms are so scarce as not to be demonstrable in the usual way. 2. The entire procedure requires only about twenty minutes, or twenty-five at the most. 3. The actual time required is not infrequently less than that required for the examination of simple smears, since the distribution of the bacilli in the preparation is so uniform that when present at all they may usually be found after but a moment's search. 4. A much more accurate estimate of the progress of a given case may be had by this method (in so far as this is obtained from the sputum alone) than by the examination of small particles alone."

Before venturing an opinion as to the cause of hematuria, always employ the cystoscope or *x*-ray—preferably both.

EVERY MOTHER HER OWN WET NURSE.

SIMON MARX, M. D.,
Surgeon to the Maternity Hospital; Gynecologist to the Red Cross Hospital.
New York.

The puerperal breast is a subject of universal interest and importance and has been the one neglected territory in midwifery. The subject title indicates that every mother can nurse her baby, and that is exactly what I desire to convey. Do not confuse this statement with—that every mother must or can nurse,—for there are exceptions.

1. The masculine type of woman has no breasts and is physically unable to fulfil this function. She is the *male female*. The female type of man with mammæ enlargement is better fitted to nurse than the first mentioned, and this actually obtains in some of the tribes of Europe.

2. The woman whose breasts have been destroyed by antecedent disease, abscess, or tumor growth, cannot suckle her child.

3. The mother who is the victim of vicious constitutional disease—tuberculosis, Bright's disease, etc., while able to nurse *must not be allowed* to raise her baby by her breast feeding.

To elucidate clearly the whole question, the following must be answered:

1. Why is the mother unable to nurse?

2. Why does not the breast functionate properly?

These questions can be answered in two ways; by the study of local and general conditions in the mother.

The nipple and its care is of prime importance. In pregnancy the epidermis which covers the nipple becomes somewhat thickened and is covered with a branny scale. These scales are formed by the drying of colostrum upon the nipple. It can be milked out of the breast at all times by gently stroking the organ. Thus we have produced by nature a perfect protection to the nipple from external injury. When from friction, rubbing, or harsh manipulations, this protection is removed in places, erosion of the nipple occurs. If entirely rubbed off we have an uneven, bright red, puckered surface presenting the picture of a sensitive, painful, fissured, or excoriated nipple. But when the nipple is protected from injury, a hardening or seasoning of the papillæ occurs under these scales, which to my mind is likened to the healing of a wound under a scab.

What I wish to get at will probably be entirely clear when I say that, when we read in text books about the care of the nipple and its treatment before confinement, how very paradoxical and perverted is the advice given us. We simply fight against the powers of nature. What she in her wisdom has given us we attempt to circumvent and destroy. Nature gives protection to the nipple. We to prepare or mollify some whimsical patient by our own frictions and fallacious rubbings remove nature's own protection which is so essential to the nipple's well being. Would a physician think of disturbing a wound healing under a scab by rubbing, scraping and meddling with that part until the scab is off?

The infrequent occurrence of sore breasts in my opinion is due to the fact that the nipple during pregnancy has little or no attention, protected only by that branny exudate which comes from the breast during early pregnancy. But in private practice, in spite of prophylactic treatment, how often do we see women who do not have sore, excoriated and fissured nipples? Since introducing my theories into practice I see very few such complications; and when a gravida asks me what she should do for her nipples—and how few do not ask this question—my invariable answer is: stop wearing corsets if possible; instead wear a corset cover to support the breast. Protect your nipples with plenty of absorbent cotton and forget that you have a nipple. When the nipples are tender and sore no other measure is recommended than the application of 10% ichthyol-lanolin salve. This in a few days heals the parts perfectly.

Now as to dangers:

1. Chronic ulcer of the nipple, ulcer with sloughing.

2. Chronic eczema, with the possible predisposition to mammary cancer.

3. The most frequent complication is a severe mastitis, with possibility of a general septic infection.

It is my belief that there is hardly a mastitis which is not due to nipple lesions: for (a) in every case a fissure or erosion, no matter how small, can always be found. (b) As a rule the mastitis found on that side of the breast corresponds to the situation of the lesion on the nipple; (c) we have a point from which the infection may be carried into the milk channels; (d) mastitis without lesions of the nipple is certainly rare. In spite of the fact that pathogenic cocci have been found in human milk, it requires an extra stimulus to start up a mastitis. Kohn and Newman, as a result of an examination of milk from a healthy woman which was obtained under all antiseptic precautions state that the milk nearly always contains microbic organisms, usually pus, cocci, especially the staphylococcus albus. The newer the milk the fewer the cocci. The same get into the breast from without; therefore, the first milk drawn, that situated in the periphery of the gland contains a greater number of cocci than that drawn later. Fermentation does not take place on account of the pus cocci, and the milk always has an alkaline reaction.

Mastitis.—The fact that so many drugs have been recommended for the treatment of this disorder shows us at once how difficult it must be to treat such cases.

1. Insures support and rest to the organ by a firm binder with holes for the nipples, to allow their exposure for the escape of milk and application of remedies.

2. Diminish the frequency of nursing as much as possible, even to the extent of temporary weaning, in order to allay both local and general irritation. Frequent nursing delays healing of the lesions.

3. As a palliative measure a five or ten per cent. cocain solution, applied shortly before putting the child to the breast, will insure perfect freedom from pain. If the nipple is tender, without a break in the continuity of the surface, a ten per cent. ichthyol-lanolin ointment has given me the best results. When fissures or erosions are present having an unhealthy, uneven, deep-seated, sloughy appearance, a thorough cauterization with lunar caustic, or better still a brisk curetting with a small dermal curette preceded by cocain to quiet pain and followed by some stimulation, as by the ammoniated-mercury ointment, balsam of Peru, or aristol in substance or other antiseptic drug is all that is necessary. Where there is a deep-seated, healthy ulcer present which fails to heal in spite of all our remedial agents, I believe that the passage of one or more fine sutures might prove the ideal method of treatment, combined with perfect rest for thirty-six hours and firm breast compressions.

For many years I have treated all fissures and erosions of the nipple with a strong ichthyol ointment and so universally successful has it proven that I have almost discarded all drugs for this one. The ichthyol ointment I use is 20 per cent. in strength. I recommend the formula of the following composition:

℞ Ichthyol	8.0
Lanolin	10.0
Glycerin	10.0
Olive oil	2.0

With or without five per cent. cocain.

The advantages claimed for it are (a) the fissures rapidly heal without taking the child from the breast and without necessitating the use of nipple shields; (b) owing to its consistency the salve can be easily and thoroughly washed off; (c) the simple salve is non-poisonous and even if the nipple be not washed off no harm is done to the child.

A few words concerning a threatened mastitis. As soon as mastitis threatens apply firm, even compression by means of a binder of strong cheese cloth. A roller bandage so much in use in former years should not be applied because the pressure is not uniform and predisposes to the formation of lumps

in the breast. Under no condition should the inflamed breast be rubbed or massage instituted; no matter how gently done it increases the irritation and the general inflammatory trouble. The corresponding arm should be tied to the side, nursing should be postponed for a number of hours and absolute rest should be insisted upon. Locally it is my custom to use nothing but iced lead water applications regularly applied. Internally, the patient is given one large dose of iodide of potash, three grains in seltzer or milk—to increase the depleting action of this drug; one dram of Rochelle salts is given hourly until the patient has a number of watery evacuations.

Even in the case of inverted nipples it is my policy not to commence treatment until the breast is ready for nursing. Preparatory treatment in order to "bring the nipples out" is dangerous on account of the local irritation with disposition to the formation of fissures and ulcers, and again the danger to distant reflex irritation may cause the woman to abort. When there are inverted nipples neither the suckling child nor local massage can cause their return to a normal condition. The duplex nipple shield should always be employed. This is a valuable contrivance, yet but little known. It consists in a small glass shield with one short nipple for the child, and another nipple is attached to a long rubber tube and given the mother or nurse to draw upon. A vacuum is thus created in the glass shield, and maintained by a small clamp tightened in the rubber tube. The nipple is everted, milk flows into the receptacle and is easily sucked by the child—in fact, it is a miniature Bier cup.

General conditions may be stated as follows:

Physical condition of the woman which causes (a) too much milk; (b) too little milk.

General conditions may be summarized by the woman (a) below par, and again by the woman (b) apparently above par.

(a) In this category must be included the woman who is the victim of some chronic depreciating disease. None of those women must suckle her child. The others must begin treatment months before their lactation period. They are of the type of nervous women, who are thin, gaunt and have a ragged appearance, neither muscle nor fat fills out their rotundity, and their breasts are knotty, and represent nothing but a loose, flabby addenum to their chest walls. Good food, a fatty diet, plenty of air and gymnastics with tonics will improve them physically to an extent little dreamed of. The exhibition for months of the fluid extract of the milk plants (the so-called bust developers) half a dram three times daily has given me at least sufficient results to warrant their employment in the future.

(b) In strong contrast to the foregoing lady stands her sister—different temperamentally and physically. Phlegmatic, fat and lazy—in a short terse way to be defined "Large of body and small of mind." My readers know the type. From the beginning of her pregnancy "she lives to eat," gets fatter and fatter and her busts are neither things of beauty nor a joy forever. She develops fat with every move and the result is either a fatty degeneration or an infiltration of the breast ducts and at the critical time empty breasts.

Here the treatment is antifat from the beginning. Diet, exercise, light gymnastics. This is done not so much to reduce weight but to prevent the woman from getting too fat. My experience in pregnancy with forcible reduction by thyroids is not satisfactory, since small doses do no good and large doses have a deleterious effect on the fœtus.

An interesting subject is the woman who has so very much breast secretion as to literally drown her suckling infant. If this is allowed to go on the woman is bound to feel this overactive physiologic function, loses in weight and condition and the loss to her is the same as if she loses vital fluids from any organ. The child suffers to even a greater extent, for no sooner is the milk gushed into its stomach, than it is vomited undigested as from a fountain. Reduction of the flow can be inhibited by the application of the breast binder and the use of such drugs which by their action retard the lacteal secretion, as ergot in large doses, antipyrin and small doses of atropin; until this is checked the child nurses the breasts either by lying on a higher plane than the mother or putting it to the breasts in an inverted position, slung over the shoulder of the mother head down over the corresponding breast.

Of greater importance is the flow of milk which is scant and insufficient for the child. This is a neglected subject and if proper remedies are used no normal mother should be unable to exercise her physiological function in suckling her child. I have seldom failed where there were no counter-indications, by the use of one of the following methods.

The usual methods to be used are early application of the child to the breasts; as soon as the young mother has had her first sleep, she suckles her child and this is repeated every two hours. This early stimulation is of great importance and if there be no counter-indication should obtain in every case. Real breast activity usually begins within three days post partum. It sometimes is delayed for a week or ten days. This should be remembered and the attempt to abandon breast nursing should not be made too early. A very useful but a very disagreeable galactagogue is pure castor oil, application of which is made to both breasts by cloths soaked in it. But the odor and its disagreeable features are such that it cannot be used in all cases. Of greater value and surer results in local treatment is the careful use of the large Bier cup for purposes of local hyperæmia, used gently, of short duration, such treatment intermittently applied not longer than three minutes with a rest of one minute, for a total period of fifteen minutes night and morning. We have in this method one of the most successful of all galactagogues. The cup is applied with vaselin on its edges to make it air-tight, and the suction is applied just short of causing pain. The breasts under its influence must not be dusky or dark but only a bluish red, and no pain should be complained of. Patients are the better off who do the suction themselves. In their hands they stop quickly when pain is threatened and when they see the warning duskiness appearing. Rapid and energetic suction is dangerous even as is too prolonged and continued application, for in one case this excessive energy undoubtedly was provocative of an acute mastitis. Skilfully and gently used this is a safe and sure method of increasing the flow of milk.

Much can be done by the internal use of true mammary stimulants, yet we must not forget that good wholesome foods are excellent adjuvants in conjunction with other means. The malt compounds are very valuable in this direction, not so much the malt liquors, but the malt extracts singly or combined with iron given in milk. Mammary extracts have not given me the results I expected. Specific influences are furnished by the milk plants, one of the most valuable being the fluid extract sold in the market in palatable form under the name of nutro lactis, one-half ounce or more can be given three times daily. This is really a valuable means and can be used when other measures fail.

One of the most valuable of all drugs which act almost specifically on the genital organs of the female and one used but little is the cotton plant. The extract of the root is still of great value both as an emenagogue and as a blood controller in severe uterine hemorrhage. Another derivation of this plant and a splendid mammary stimulant is the dry extract of the cotton seed, sold under the name of lactozol, which can be readily taken in water or milk one dram to one-half ounce three times daily.

My successes with one or another or all of the above named means have been so nearly universal that I can truly say that almost without exception "Every mother can suckle her child if patience and time be given to it."

The general mortality from diphtheria has been reduced seventy-four per cent. since antitoxin has come into use.

A SUGGESTED MEANS OF MEASURING ABDOMINAL RIGIDITY.

By CHARLES E. S. WEBSTER, Jr., M. D.,
Assistant Visiting Physician to Lincoln Hospital; Assistant Visiting Physician to Bellevue Hospital, O. P. D.
New York.

Of the three cardinal signs of abdominal irritation—pain, tenderness and rigidity—the former two are insusceptible of measurement, as they depend upon the patient's statement and may not be directed, measured or estimated. The muscle reaction, however, especially when asymmetrical, when it has its greatest value as a means of diagnosis, may be made a matter of demonstration. It is to a considerable extent independent of the behavior of the patient, and if the abdomen is relaxed and tenderness not elicited may be readily appreciated. It has seemed that some means of computing and recording varying degrees of abdominal muscle contraction might possess some interest other than purely academic.

The muscle wall of the abdomen maintains a certain tone which varies according to the position of the body and the state of its contents. In the erect posture these muscles aid in maintaining equilibrium, and afford a greater resistance than when the body is at rest. When in the flat dorsal position they maintain a lessened tone, but sufficient, as has been demonstrated by Haven Emerson, to keep up a constant positive intra-abdominal pressure; and it is by their elastic recoil, after being stretched during inspiration by the descent of the diaphragm, that quiet expiration is accomplished. The tonus of the wall may be decreased by repeated stretching of the abdominal muscles, as in pregnancy or any lasting increase of the abdominal contents, by lack of exercise, or any other condition which impairs the general bodily musculature. Abdominal tone is increased in rapid filling up of the abdomen, is higher in well muscled individuals, and in patients suffering from any irritation of the lining membranes of the abdomen, and by pain or irregular contractions of the hollow viscera, as in lead poisoning. It is also increased when general muscle is increased, as in meningitis.

This heightened tone is general when any process involves the whole or the greater part of the cavity, and is local when but a small part of the cavity or a single viscus is the seat or origin of the stimulating impulse. When a process which causes such change in tonus is local there is an increase in the tone of the muscle area anatomically corresponding to it. This contraction may take place at some distance from the site of the irritative process, as in the case of the contraction of the cremaster muscle in inflammatory conditions of the kidney. In general, however, the rigidity of the muscle is directly related to the viscus or area involved. The abdominal muscles do not contract as unit muscles but in parts corresponding to the stimulation; this readily observed when but a portion of the wall is rigid and the remainder flaccid, or not raised in tone, and though, of necessity in a readily movable and semi-fluid content such as the abdomen, the internal pressure must be the same in all areas, except in cases of elaborate adhesions, the external muscle rigidity may be very high in one area and very low in another. In one case to be mentioned later, one area of the abdomen showed a resistance of 40 mm. Hg., and another 15 mm. Hg.

When visceral pain is produced, that is, when such irregular contractions of the smooth muscle of any of the hollow viscera have become so marked as to be appreciated as pain, the viscero-motor reflex causes rigidity of the related abdominal muscle in the absence of peritoneal inflammation—as in gastric ulcer and cases of appendicitis of the catarrhal type. (Hertz.)

Muscle rigidity of the abdomen may be produced from causes outside of the abdomen, as in pneumonia or any process which by means of the active stimulation causes an overflow of the motor response into a field greater than that immediately related to the morbid process.

That some means of measuring the amount of contraction might be of value, not necessarily as a means of diagnosis, but as a matter of record from day to day, led to the contraction of this instrument.

The method of eliciting the symptoms of rigidity is roughly the muscle sense of resistance offered to the examining hand, as compared to other areas in the same abdomen, it being the recoil of the muscle to indentation. To make an approximation of this force, the attempt was made to measure the pressure necessary to indent the wall to a given depth, such pressure being read direct on a mercury column.

The plunger of this machine acts against a very flexible air-containing rubber bag in the interior of the cylinder, which is directly connected with the mercury column. This plunger extends below the two contact points, which are 6 cm. distant from one another, a distance of 2½cm. When pressed against a rigid surface these two points come in contact with the surface at a mercury excursion of 90mm. Hg. and when pressed upon any softer surface, much earlier, that is, at a much less excursion of the big column. There is an error to be noted at this point. Instead of coming into contact with the abdominal wall in its normal flat or somewhat convex condition, these points tend to touch the walls of the depression made by the plunger, but as this error is more or less constant it has been neglected in the following measurements. The friction between the plunger and the cylinder is very slight, and as it is the same for all readings has not been computed as an error. When in use a slight pressure of air is kept in the tube and bag, enough to keep the bag inflated, that is, 2 or 3 mm. Hg. which is deducted from the obtained reading in each case. The plunger is pressed against the area to be measured, vertically such surface, and the height of the mercury column read when the two points come into visual contact with the abdominal wall.

With this apparatus an attempt was made to gain a general idea of what abdominal pressure was in normal abdomens not the seat of any known complaint. In all cases the position was flat dorsal, legs extended, arms by the side, the patient instructed to breathe quietly and to relax the abdomen. Any respiratory effort was found to send the pressure up to a marked degree. The points measured were at the level of and distant from the umbilicus 2½ inches. The average of a large number of readings was

Right side, 27.2 mm. Hg.
Left " 26.3 " " , showing a very slightly greater right sided pressure .9 mm. G.

The extremes in the series were 33 mm. Hg. in a strong well muscled man; 13 mm. Hg. in a weak, fat, flabby abdomen which had been stretched by several pregnancies.

13 mm. Hg. was the lowest reading obtained, and the next was 17 mm. Hg. in a very fat flaccid abdomen. All the rest were above 26 mm. Hg.

The presence of a large amount of fatty tissue on the abdomen seemed to negative to a considerable extent the readings as the plunger, though more than an inch in diameter, would sink in, and the points come in contact before the underlying muscle was indented.

In many of the normal cases, it was found that slight variation between the two sides, mostly higher on the right, was not unusual, and unaccompanied by any symptoms either subjective or objective. This variation was never greater than 2 mm. Hg.

On measuring the same abdomen for several days, practically no variation was made out; that is, if a patient showed a pressure of 26, it would be the same for him until some process modified it. The effect of constipation was not marked, but gave in general a slightly higher reading.

Distention with gas gave readings considerably above the average when the symptom was relieved .

In measuring one of the normal abdomens, a peculiar instance of abdominal rigidity was demonstrated. A patient who had rheumatic inflammation in the knees and ankles had been

measured several times, the pressure being equal on both sides. On the sixth measurement a difference of four mm. Hg. was made out: Right, 31; left, 27, and though the abdomen was otherwise normal the rigidity was readily palpable, and was found to be due to an acute attack of rheumatic inflammation in the patient's right hip spreading to the abdominal muscles. The difference two days later was but 2 mm. Hg. and the same four days later. In both of these cases the patient was experiencing amount of pain, and seven days later the pain having ceased, the abdomen showed an almost equal pressure on both sides, the left being 1 mm. Hg. higher than the right. At no time was there any sign of any difficulty in the patient's abdomen, nor was any pain or tenderness elicited by deep hand pressure over the tightened area.

In pneumonia it is well recognized that there is rigidity on the affected side, and this was shown in the cases examined, the average of right sided pneumonias being 30.6 mm. and 28.3 left. The highest reading obtained was 37 right, and 35 left, and the lowest 26 right and 23 left. Nearly all these readings were taken after the temperature had fallen. It was of interest to note that though pressure fell on both sides after defervescence the affected side remained higher all through the convalescent period. This was well shown in one case where the patient was kept in bed by an otitis media, following his pneumonia, and his left side—affected side, showed a higher reading 3 mm. Hg., seventeen days after his temperature of his pneumonic attack had reached normal. There was no abdominal complaint at any time nor any symptoms pointing to any abdominal condition.

In the more obvious conditions, as inflammation of the abdominal viscera, some results of interest were obtained. A patient presented the symptoms of inflammation in the region of the gall bladder, pain, tenderness and rigidity. The readings were: Lower abdomen taken over appendix joint, and a point corresponding to it on the left side, right 18, left 5; at the level of umbilicus, right 25, left 18; and above the umbilicus, right 30, left 25. Operation the next day showed pus and gall stones in a distended gall bladder to which the omentum was adherent.

It is observed that the pressure in the upper abdomen is unusually high in this case, but in all instances, the zone above the umbilicus gave higher readings, due in part to the greater thickness of the muscle and also to the anatomical arrangement, whereby the muscles are, as it were, suspended from the bony framework of the thorax. That there is a lessening of the general abdominal pressure when there is a local inflammation seems borne out by the foregoing case, where the left side of the abdomen was very much lower in pressure than the average, though over the inflamed area there was the highest pressure of any readings made, viz., 40 mm. Hg.

Another case seems to point to the same conclusion. This patient presented the signs of an inflammation in the right lower abdominal quadrant and operation was not done. The first reading was right 23, left 16 mm. Hg. Three days later it was right 27, left 19. Three days later it was right 27 and left 17, though pain had ceased and there was tenderness on deep pressure on the appendix region. Two days later, right 23, left 19; no pain and very slight tenderness, and three days later when all pain and tenderness had disappeared, right 24, left 19.

A member of the intern staff at Lincoln Hospital was in bed a few days with pain, tenderness and rigidity in the right lower abdominal quadrant, with fever for two days. When at the most severe phase of his attack he showed right 28, left 18, and four days later when all symptoms had disappeared he showed right 33, left 31, which seemed a much more appropriate pressure for him than 18, as he was a large, strong, well muscled man.

In all the surgical cases which were measured the rigidity as palpated by the examining hand was borne out by the readings of the mercury column, and in several cases, mostly medical, areas of rigidity were demonstrated which had not elicited any attention, owing to the focus of disease.

An attempt was made to measure the difference between the abdominal tone in patients before and after anæsthesia, but results were not very convincing. It was expected that pressure would be markedly lowered, but this was not the case. However, the difficulty of making an accurate reading during the dyspnœa incident to ether narcosis when the abdomen was making very large respiratory excursions, made the results of doubtful value. In so for as there were any results the pressure was the same as before anæsthesia, the relaxation of the abdominal muscles being made up for by the greatly increased activity of the diaphragm, which has been shown by Haven Emerson to be the active agent in maintaining intra-abdominal pressure.

When the measurements were first undertaken one or two objections were made which seem quite justified—one was that it was not possible to replace the tactus eruditus of the skilled surgical examining hand with a machine which seems obvious, and the other that the sensation of touch, being one of the most delicate of perceptions would negative the attempt to measure what was thereby perceived As a matter of fact, as stated above, in cases where the examining hand felt rigidity, a variation in reading was made out, but a reading as a matter of record and from day to day might prove of interest in doubtful cases, when muscle memory might fail of accurate determination of differences.

SENILE ARTERIOSCLEROSIS WITH ALTERNATING CEREBRAL ANEMIA AND CEREBRAL HYPERAEMIA.

I. L. Nascher, M. D.,
Lecturer on Geriatrics in Fordham University.
New York.

The following case is an extreme example of a form of cerebral circulatory disturbance which is not infrequent among the aged:

Mrs. L., aged 68, complains of frontal headache upon arising in the morning. The pain gradually subsides and about noon she is free, but a few hours later she begins to feel a sickening headache at the base of the brain and to obtain relief she must lie down. The headache of the morning is dull and the head feels heavy, the temples throb, the conjunctivæ are injected and the face is flushed. The greatest distress is over the forehead and vortex. The afternoon headache is not a pain but a feeling of emptiness or lightheadedness, there is a sickening feeling about the base, the conjunctivæ are blanched and the face is pale. If she remains up after these symptoms appear the skin becomes cold and covered with perspiration, there is vertigo with tinnitus, spots appear before the eyes, there is drowsiness, and finally a feeling of faintness which on one occasion terminated in syncope.

The cerebral hyperaemia which sets in during the night is a passive congestion, the sleep is heavy, comatose, associated with snoring, the patient is aroused with difficulty and upon being awakened there is some mental confusion. In addition to these symptoms of alternating cerebral hyperaemia and cerebral anemia there are the symptoms of cerebral arteriosclerosis, occasional dizziness, vertigo, a momentary feeling of fullness, as though a gush of blood came up from below went whirling through the head and then dropped down again. This is accompanied by a sudden flushing of the face, with roaring in the ears, dimness of vision and dulling of the intellect, the whole lasting but a moment. There is frequently mental depression with occasional fits of excitability, during which there is mental confusion and sometimes temporary delusions.

While the arteriosclerosis is a permanent condition with acute symptoms and exacerbations at irregular intervals, the cerebral anemia comes on gradually, when the patient is in an erect posture and passes away upon lying down, to be followed by the hyperaemia. This deepens until the patient arises when it gradually subsides.

A mild cerebral anemia occurs normally when a person has maintained a prolonged upright position and this is accepted as one of the causes, if not the principal cause, of normal sleep. Lying quietly for hours with the head low will produce cerebral congestion. Thus an alternating cerebral anemia and hyperaemia occur normally but they produce no distress, for when the anemia causes drowsiness the individual lies down and when he finds that lying with the head low causes a sense of heaviness in the head he lies with his head elevated upon the pillows. These instinctive acts, that of lying down when the anemia causes drowsiness and of raising the head when the head feels heavy, are nature's provisions to prevent pernicious results from a deficiency or an excess of blood in the brain. In cerebral arteriosclerosis there is a cerebral anemia due to the contracted and hardened vessels and an impaired vasomotor regulation due probably to a senile change in the vasomotor centers and a change in their action comes to accommodate their functions to the altered vessels. These changes in the vessels and vasomotor centres will explain the diverse symptoms of cerebral arteriosclerosis, the symptoms being referable to the anemia active or passive hyperaemia or to a change in the brain itself, caused by malnutrition or senile involution. The alternating cerebral anemia and hyperaemia is more marked in the aged than in younger individuals. The aged frequently complain of a headache upon arising and they are generally dull and apathetic for some time after awakening. If their sleep is broken they will double up the pillow to raise the head higher. Owing to the slowed circulation the congestion may persist for hours but the headache gradually disappears and after a respite of a few hours the anemic symptoms, drowsiness and dizziness, appear and the aged individual wants to take a nap. In the case reported the symptoms are more pronounced than usual in cases of cerebral arteriosclerosis. In both phases of the circulatory disturbance there is acute distress which requires medical intervention.

Treatment in such cases is difficult as we have opposite conditions to deal with. In some cases we can find a slight but controllable cause which aggravates the disturbed condition. The hyperaemia may be intensified by constipation, dietetic errors, exercise, mental labors or excitement. Excitement will cause a temporary hyperaemia with anemia as the reaction. Anemia will become worse when taking long walks, riding up and down elevators, riding in motor driven vehicles in which the rumble and vibration cause cerebral anemia. The fear of accident when crossing crowded thoroughfares is a potent cause of cerebral anemia in the aged. In one case straining at stool caused a hyperaemia followed by anemia and syncope. If no removable cause can be found the treatment depends upon the gravity of the symptoms. In most cases the symptoms are not sufficiently severe to require treatment. The patient will lie down when he begins to feel drowsy and he knows from experience that the morning headache will disappear after he has been up and about. If medical treatment is required it is almost always for the morning headache, the hyperaemia. In these cases we may be obliged to resort to quickly acting vaso-constrictors, notwithstanding the rule that vaso-constrictors should not be used in cerebral arteriosclerosis.

In the case I have described fluid extract of ergot in a 30 minim dose immediately upon arising gave the best result. The headache usually subsides in ten or fifteen minutes but the patient has occasionally cramps in the legs and griping pains in the abdomen which last sometimes for a few minutes, sometimes for half an hour or more. With ten minim doses at one hour intervals these incidental effects do not appear but the anemic symptoms come on earlier. When these appear the patient lies down for half an hour and when this is impracticable two minims of a one per cent. solution of nitroglycerin gives relief within a few minutes. I have omitted symptoms and signs in this case, which have no bearing upon the purpose of this paper.

Current Orientation

GWATHMEY'S NEW METHOD OF VAPOR ANESTHESIA, WITH COMMENTS ON NITROUS OXIDE-OXYGEN ANESTHESIA.

The recent announcement of a new method of anesthesia by Dr. James T. Gwathmey, of New York, the leading authority of anesthesia in this country, calls especial attention to the great strides in this branch of medicine in recent years. Gwathmey stated that if an ounce of the essential oil of orange is placed in the hot water bottle of his three-bottle vapor anesthesia apparatus with three ounces of water and ether in the other two bottles, the smell of the ether will be so completely disguised that the patient will be ignorant of the inauguration of the ether administration and will pass into the state of analgesia and then of anesthesia without a struggle. Furthermore, he says a minimum amount of ether is used and the patient regains consciousness immediately upon the completion of the operation without discomfort, nausea or vomiting except in rare instances. As unusual as this statement is, most physicians will readily give credence to it on account of the author's high standing and the great amount of valuable work he has done in connection with anesthesia. Indeed, we may consider Gwathmey the father of anesthesia as a specialty in this country.

Before taking up the new Gwathmey oil of orange-ether method it may not be amiss to consider briefly the history of nitrous oxide-oxygen-ether anesthesia. Forty-four years ago Professor Andrews of Chicago demonstrated that a splendid anesthesia resulted from a mixture of 80 per cent. of nitrous oxide and 20 per cent. of oxygen. Later experiments showed that the proportions were subject to wide variation in order to meet certain conditions. Recently the addition of ether vapor has been found advisable at times to obtain perfect relaxation. On the whole, however, when nitrous oxide and gas are given a smooth anesthesia more easily follows the use of a constant mixture, properly proportioned for the individual case.

Much research work has been performed in this subject in Harvard medical school by Dr. W. M. Boothby, a Bullard Fellow, who has contributed interesting material on the subject, in conjunction with F. J. Cotton, to *Surgery, Gynecology and Obstetrics*. Following his investigations we note that the first person to develop an apparatus for the successful use of the new method of anesthesia was Hewitt of England. His method of overcoming the terific pressure of the nitrous oxide and oxygen was to use semi-elastic bags, kept more or less full from the high-pressure tanks by means of an intermittent flow of the gases controlled directly by hand valves on the tanks, acting against the high pressures. From these bags the flow of gas to the patient was regulated by a graduated valve that allowed definite proportions of gas to pass from each bag, providing the pressures within the same are equal. Unfortunately, it was found difficult to keep the bags equally and evenly distended, so that the mixture varied greatly.

McKesson then took up the burden of procuring an apparatus, but it did not meet the requirements, and Cotton and Boothby undertook the construction of a machine which would do away with the poor features of the others and combine ideas which experience has shown them to be necessary. Their machine meets, they believe, all the clinical and physiological requirements of surgical anesthesia, and it effectually overcomes the mechanical difficulties attendant to the successful administration of nitrous oxide-oxygen-ether.

It possesses these fundamental features:

1. It delivers, for any length of time, any desired proportion of nitrous oxide and oxygen, without requiring constant attention from the administrator.

2. It is possible to add ether vapor in any strength from the

merest trace to a high percentage, and any desired variation in this percentage can be gradually and yet rapidly made.

3. One can instantly estimate by the eye the approximate proportion of each gas being administered.

4. The face-piece is not only air-tight, but practically self-retaining.

5. The apparatus is strong, light and reasonably portable.

Bloodgood, in discussing the various methods of anesthesia (*Progressive Medicine*, December, 1910), gives these advantages of nitrous oxide-oxygen:

1. It has no odor, and the patient is not aware, so far as any odor is concerned, that he is taking an anesthetic. Therefore, he goes to sleep quietly and easily.
2. It produces no shock of itself, and the total amount of shock from an operation is much less under gas and oxygen than under ether.
3. It does not have any harmful action on the leucocytes, therefore is indicated in infections.
4. Its danger is not increased by frequent subsequent administrations.
5. There is much less post-operative vomiting from gas and oxygen than from ether or chloroform.

He says its disadvantages are:

1. It is considerably more expensive than ether or chloroform.
2. It does not produce the deep relaxation of the muscles that is seen under ether or chloroform.
3. The anesthesia is much lighter and more transient and consequently requires more watchfulness and expertness on the part of the anesthetist to produce an even smooth narcosis.
4. It requires a more expensive complicated apparatus for its administration, and the anesthetist, or someone in charge of the apparatus, must have mechanical ability to keep the joints gas-tight and kept in smooth working order.

An analysis of the disadvantages of gas and oxygen show that they concern the surgeon and anesthetist alone, and do not add to the discomfort or danger of the patient.

It is worthy of note that patients who have had gas or oxygen once do not dread it a second time, as is usually the case when ether or chloroform is the anesthetic. According to Crile (*J. A. M. A.*, Dec. 2, 1911), there is only one-fourth the shock from the same amount of trauma under gas as under ether.

Collins of Peoria in a paper read before the Western Surgical Association, Dec. 18, 1911, in commenting on the expense of this method:

"Its cost makes it almost prohibitive for the slow operator, who requires one and one-half hours for an appendicectomy, or three hours for an ordinary hysterectomy. Gas is not the anesthetic for the operator doing 'chronic surgery.' The expense may be lessened by allowing the patient to re-breathe the gas and oxygen as suggested by Gatch. The re-breathing does not seem to harm the patient, and it generally lessens the amount of gas consumed. Where the gas is used in quantities sufficiently large to justify the initial expense of the plant, the cost can be still further lessened by putting in a hospital the apparatus for its manufacture.

"I have had such an apparatus installed in the St. Francis Hospital in Peoria. The gas is made and stored under pressure in a steel tank. It is admitted through a metal pipe to the operating room at an even pressure of 25 pounds by means of an equalizing gauge. This has been found by experience to be the best pressure for the administration of the gas, but the pressure may be varied at the equalizing gauge to suit the ideas of the anesthetist. The oxygen may be procured cheaper than it can be manufactured at the hospital. It comes in large tanks holding 1,250 gallons, and can be bought for about one-half cent a gallon. It is delivered to the operating room by an equalizing gauge at about ten pounds pressure.

"I use the Teter administration apparatus. The gas and oxygen go through the mixing chamber through several coils of small pipe immersed in water, which is heated by an alcohol lamp enclosed in a miner's safety device. The miner's safety device prevents any possible ignition of ether vapor from the alcohol lamp. The warm gas then goes through a rubber tube to the inhalation mask. The Teter apparatus also has an ether container, and varying proportions of the warm gas may be passed over the ether, if desired, by a system of cocks. The boiling point of ether is so low, being about 90 degrees, that the warm gas takes it up readily. Any proportion of oxygen may be mixed with the nitrous oxide gas in this apparatus, or any proportion of ether may be added to the mixture."

Collins is very partial to this form of anesthesia. One and one-half hours before the operation he gives 1/100 gr. scopolamine and 1/6 gr. morphine. He begins anesthesia with nitrous oxide gas and oxygen and continues with it to the close of the operation, unless the incision is made through or between the recti muscles or the operation requires the lithotomy position. In patients where the incision involves the recti muscles or requires the lithotomy position and the recti muscles or the leg muscles do not relax under the gas and oxygen, Collins adds a little ether vapor (two or four drams) until these muscles are relaxed, and then the anesthesia is continued under gas and oxygen exclusively.

This form of anesthetic administration is particularly favored by dentists, as they are able through it to place their patients in the stage of analgesia for cavity and crown preparation, using the third or complete stage of anesthesia for such operations as extracting, lancing abscesses, curetting bone, extracting vital pulps, implanting teeth and all other operations that come under the heading of oral surgery. In analgesia the patient must at all times be kept conscious, able to talk, to spit and to keep his eyes open. He must never reach the excitement or second stage of anesthesia. In other words, correct analgesia is a state of intoxication, during which the patient at no time becomes unconscious. It does not affect the central nervous system, but acts entirely on the sensory nerves.

In anesthesia he must at all times be unconscious of his surroundings and must never be conscious of the least pain. Dentists say that any danger from the anesthetic comes through operating in a semi-conscious stage or the excitement stage, when sound, pain and all other impressions are magnified. They insist that if the patient is allowed to feel one twinge of pain at that time he imagines he has felt the whole operation, and consequently the benefit is lost. Barber of Chicago says he has kept patients under gas and oxygen anesthesia for one hour and fifteen minutes.

The profession owes a debt of gratitude to Gwathmey for his work in connection with vapor anesthesia. In 1905 he first produced an apparatus for this form of administration. As now made, this is very simple. It consists of three bottles, one each for ether, chloroform and hot water or hot neutral oil for warming the vapor. A drum in the ether bottle vaporizes all of the ether and a small bottle holding 10 drams of chloroform is placed in the chloroform bottle.

This shows the three bottles of the vaporizing apparatus, with the single stopcock.

At any time the anesthetist can give either chloroform or ether, or any combination of the two, by simply turning the single stop-cock, the change being made in less than a fraction of a second, all of the vapor passing through the third bottle, usually filled with hot water, and terpineol or a hot neutral oil. Unquestionably a smaller amount of anesthetic is used with this apparatus, or with some similar apparatus, than with any other method now known.

Dr. Gwathmey claims these advantages for his apparatus, which is now used in hundreds of hospitals:

1. A smaller amount of anesthetic is used. In a chloroform anesthesia, in which ether was contra-indicated on account of

an ulcer in the stomach, he has used two drams of chloroform for a 25-minute operation. Two or three ounces of ether with one to two drams of chloroform per hour is the usual amount

2. The technique can be acquired with less danger to the patient than with any other anesthetizing method. In getting the patient entirely under, with this apparatus alone, excitement is usually absent, or so slight that it is unobjectionable.

3. In over 90 per cent. of the cases unpleasant after-effects are entirely absent.

4. A continual narcosis is always maintained, as we know exactly what per cent. the patient is getting at all times, and in addition the gradations are easily and readily made by moving the one lever according to the degree of narcosis demanded by the operation. An intermitting narcosis, which is wrong in principle, is thus avoided. It is especially indicated for nose and throat operations, and is the apparatus for mastoid operations. The anesthetist can maintain primary anesthesia, moving backward and forward between what is commonly known as the second and third degree of anesthesia, without once arousing the dangerous vomiting center. All of the vapor, being warmed, is more respirable, reducing the after-effects and increasing its safety as regards life. With this attenuated vapor an infant three days old can be safely anesthetized and an alcoholic can be easily kept under after reaching the surgical stage. All patients can be narcotized within five minutes, and with this warmed vapor the kidneys, heart and lungs are never seriously affected.

Dr. Gwathmey has so perfected the apparatus that it can be used with a vacuum water pump, used by dentists for removing blood and secretions from the mouth and throat in operations about those parts, in which it is necessary to remove the mask. Under these conditions the anesthetic vapor is administered through a metal tube attached to the delivery tube of the apparatus.

Many men believe that disturbance of the olfactory nerves causes nausea. Man and other microsmatic animals are able to smell, and they also become distinctly nauseated when smelling certain unpleasant odors. Anosmatic animals have no sense of smell and are not known to become nauseated. Some animals are greatly frightened when inhaling certain odors, as those of their enemies, and appear as if hypnotized when smelling a pleasant odor.

These facts were noted by Dr. Gwathmey, and he put a somewhat hazy theory into effect by putting a few drops of perfume on his inhaler before administering the anesthetic to children or nervous adults. He was so satisfied with the results that he pursued the investigation of his theory further. He obtained inspiration from a statement by Zwaardemaker in Tigerstedt's Physiology, who demonstrated by means of an olfactometer that essential oil of orange had ten times the penetrating quality of ether vapor, 0.00005 mg., sufficing to perceptibily aflect one liter of air.

Gwathmey thereupon began the use of the oil of orange, allowing the patient to breathe it gradually, and found that when the ether was turned on the patient was quite unaware of the fact and submitted to its administration without a struggle, with no choking, no excitement and with no unpleasant effects of any kind. In addition, the patient recovered consciousness almost immediately after the anesthetic had been removed and there was practically none of the attendant nausea, vomiting and concomitant ills. The discoverer has used this method in several hundred cases with remarkable results. A demonstration of its merits which attracted widespread notice was recently given in the United States Naval Hospital in Brooklyn by Dr. Gwathmey and his co-laborer, Dr. W. C. Woolsey of Brooklyn. Medical Director J. C. Byrnes, U. S. N., commanding the hospital, presented for operation four robust but not especially temperate patients, and the operations were for hernia, double hernia, varicose veins and hemorrhoids. In the first case the patient was anesthetized in seven minutes and two and one-half ounces of ether were used for the operation. The other cases were anesthetized in seven, six and five minutes, respectively. After the end of the operations the men were completely conscious in three, six, sixteen and thirty minutes, respectively, the difference in time being due apparently to the length of time the patient was under the influence of the ether.

Commenting on this editorially, the New York *Medical Journal* says:

In all these cases anesthesia was obtained with a total absence of the usual unpleasant phenomena and sequelæ. Recovery followed hard upon the completion of each operation, and the patients presented a perfectly normal appearance. Examination of the urine was negative. In one case, that of the hemorrhoids, there was a temporary retention of urine, a common sequel, however, of such operation. The ease with which anesthesia was induced was the occasion of surprise and comment on the part of the attending surgeons of the Navy, who saw immediately the great advantages presented by this method for use on board ship, doing away, as it does, with the necessity for the cumbersome gas oxygen apparatus, and cutting the necessary supply of ether in half; two ounces an hour are ample in this method.

While the several distinct advantages of this new idea will be seen at once by all physicians using anesthetics, it must appeal especially to naval surgeons, to whom available space means so much. This will enable them to do away with the tanks they have been compelled to use. It will also commend itself to army surgeons, as the apparatus is so compact that it can be carried in a small surgical bag. If we mistake not, Surgeon General Stokes of the Navy and Surgeon General Torney of the Army will investigate the latest Gwathmey method very carefully.

The apparatus is simple, consisting of the three-bottle vapor anesthesia apparatus, a cut of which is given above. One bottle holds the oil of orange and the other two water and ether. A foot pump connected with the bottle by a tube vaporizes the liquids and the vapor is discharged into a rubber bag about the size of a football, which regulates the force of the flow. A vapor inhaler covers the mouth and nose of the patient, so that he is compelled to re-breathe the fumes several times.

A regulator on the bottle enables the anesthetist to change the mixture of the gases on the instant. At first nothing is pumped into the lungs but the essence of orange. Then the weak solution is allowed to filter into the rubber bag, the strength of the ether being slowly increased until the patient is receiving it to the limit of his capacity. If he shows a tendency to nausea or excitement the flow of ether is immediately lessened and the orange vapor increased.

Dr. Gwathmey, who is one of the physicians at the Skin and Cancer Hospital, Gouverneur Hospital and St. Bartholomew's Clinic, is daily demonstrating the method, and he will explain before medical societies or at hospitals as his time permits. It would appear as if he had solved the mystery of ether anesthesia and robbed it of its terrors.

The Times Owners.

Acting in accordance with the recent law passed by Congress demanding that the owners and editors of all publications be published, we give a complete list of the stockholders in the Medical Times Company: President and treasurer, Romaine Pierson; secretary and editor, Dr. H. Sheridan Baketel, and J. C. Borthwick, all of 108 Fulton Street, New York.

During the year 1911 there were 40,000 reported births in Philadelphia; 2,131 were still-births at term; 559 premature babies were still-born; approximately 9,000 miscarriages occurred. A baby was born every thirteen minutes, a baby was lost before birth every forty minutes, and a still-birth at term occurred every four hours.

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THE NEWSPAPER AND THE PHYSICIAN.

The advisability of having a trained physician on the staff of the metropolitan daily papers of the country has often been discussed in medical meetings, and the consensus of opinion has been universally in favor of such a procedure. THE MEDICAL TIMES emphatically believes that a medical man should be included on the staff of every high grade daily of size sufficient to warrant the addition of such a special writer.

Journalism is on a higher plane to-day than at any period in the history of the fourth estate. Despite the hue and cry against "yellow journals" on the part of sporadic demagogic politicians and alleged reformers, the majority of newspapers are conservatively edited. To be sure, there are papers, some of large circulation, which pander to low interests and which could be sunk in the sea of journalistic oblivion greatly to the betterment of mankind, but these sheets are exceptional. The average editor gives the people the kind of reading they desire.

We regret that element in the human makeup that craves knowledge of crime and scandal. It would be a pleasure to banish such news from the columns of the press, but such material finds a place in our papers because readers demand it, and we can only hope to have this matter published in a manner which will be least offensive to conservative people. The editor is responsible only for the way in which he handles these stories. He can hardly be expected to elevate the tastes of his readers. That is a task for the parent, the pedagogue, the preacher, and the Sunday School teacher.

The far-seeing editor, desiring to lay hold on that which is good and which the people should want, is becoming more interested in matters relating to health and hygiene. He is devoting valuable space to explaining the cause and cure of disease and the hundred and one things intimately connected with medical science. Unfortunately his lack of technical knowledge often causes him to depart from the paths of medical rectitude into the devious byways of quasi-professional and wholly untruthful fiction. Many of his stories are interesting reading, but they are such fearful and wonderful productions when compared to the actual facts in the case that Jules Verne in all the glory of his imaginative story building could never have constructed tales as wonderful as these.

For example, in one of our great dailies an entire column of telegraphic news was recently copied with a description of a remarkable operation, during which the brain was taken from a man's skull, placed on a cloth, the diseased portion removed and the missing part replaced by parts of the brain of a lately deceased child. Another prominent paper offered its readers a report of a scientific symposium declaring that bathing was injurious because more microbes are found upon the skin after than before bathing; and this important news was sent by wireless from Paris!

Newspapers publishing such nonsense, which originated only in the iridescent dream cells of some space writer who needed the money, insult the intelligence of their readers. Surgery has almost brought back the days of miracles, but the wildest flight of surgical imagination could not bring the alleged operation to pass. A competent medical editor would have killed those stories aborning. Instead of allowing his paper to print "news" which makes it the laughing stock of thoughtful people, he would turn out material of real value.

The New York *Sun*, that excellent exemplar of high class journalism, has set the pace for other newspapers in connection with this idea. Its medical editor is Dr. Simon Baruch, known to and admired by the entire profession through his splendid work in hydrotherapy in connection with the New York Post Graduate Medical School. His editorials are erudite and thoroughly instructive. Contrast the lamentable stories just mentioned with articles which have recently appeared in the *Sun* from Dr. Baruch's facile pen: Hydrophobia and Superstitions About It; A Novel Antivivisection Argument; Does Vaccination Protect; Pasteur Belongs to the World; Typhoid in Winter Resorts; Abuse of Medical Charity; Why Not Muzzle Dogs?; How to Escape Pneumonia; Typhoid Mary Outdone; Faulty Hygiene in the Country; The Physician and the Public; Health Bulletin Warnings; Deaths from Acute Indigestion; Pay of the Marine Hospital Service; The True Basis of Life Saving Surgery; Moderate Drinking; Is it a Waste of Time to Bathe; Ptomaine Poisoning; Opposition to the Owen Health Bill; Post-Graduate Medical Teaching; A Medical Revolution in China; Small but Fatal Operations in Surgery; The Homicidic Fly; Need of Milk Pasteurization; Pure City Water; Cancer Litigation; The Perpetuation of Health and Medical Information for the Public.

If managing editors could only realize it there are veritable mines of "human interest" stories founded on medical fact, not fancy, which could be written by the medical editor. He could obtain a wealth of "Sunday Specials," as well as daily features, interesting in detail and really helpful to his audience.

In the symposium in this issue, some of the leading newspaper men of the country have discussed this subject and we commend their opinions and our comments to the editors of those papers who have the welfare of their clientele at heart.

HONESTY IN PHARMACY.

The campaign inaugurated by one of the great New York proprietary houses against these druggists who sell spurious or dishonestly imported remedies is worthy of the careful consideration of all physicians.

In whatever light the action of these druggists is viewed they are guilty of offenses against the government, and they should be summarily punished, as are all other offenders against the law. When the Federal statutes specify that a certain foreign made drug shall not be sold here unless it has met every governmental requirement, no one can bring the drug into this country and sell it as the original product, quieting his conscience with the belief that it is said to have been manufactured by the firm producing the original drug which can through process of law be imported. The illegal remedy may or may not be genuine, and we are inclined to think the latter is more often the fact.

It is not within our province to discuss the merits of the case. That the manufacturers are able to handle the matter is evidenced by the recent conviction and severe sentence of a Brooklyn druggist found guilty of handling counterfeit goods, and if the public prints are to be believed war will be waged on these dishonest dealers until the public can be certain that its prescriptions will be properly compounded with genuine drugs.

There is a very serious side to this question, and the ultimate consumer and the unfortunate physician bear the brunt. While the dishonest druggist makes a few cents more and the honest druggists, who are very greatly in the majority, suffer at the hands of the few rascals, and while the manufacturer loses a great deal, the patient, upon whom the indignities of substitution are heaped, is the actual sufferer, and he blames his medical attendant. Thus the two innocent parties in the transaction distinctly lose in health and reputation.

The practitioner has good reason to pause and ponder. His daily bread depends upon his ability to effect for his clientele a restoration to health. To do this he must have the best therapeutic tools. Let us suppose his prescriptions are filled at the drug store of a man purchasing his drugs from an itinerant peddler, who sells far below the market price for cash, gives no bills and answers no questions, unless it be to say the goods were "smuggled" or "picked up," or who is taken in by the plausible agent, who says the stuff he is selling is composed of physician's samples.

The poor patient grows worse and the medicine is quite ineffectual. In despair the family dismisses the physician and calls another. He may be a dispenser, who purchases his goods from a reliable manufacturing house. His treatment is satisfactory, the patient recovers and Doctor No. 1 has lost a family—why? Because the druggist to make a few extra pennies has purchased spurious, adulterated or inert drugs.

This is a matter of dollars and cents with the physician and the man who allows his prescriptions to be filled by a druggist who purchases his drugs of peddlers or "fly by night," unrated jobbers, or so-called "physicians' supply houses," who are flooding the country with substitutes, is simply committing professional hari-kari.

We believe most druggists are honest and do not countenance the dishonorable methods of the black sheep of their number, and it is their duty to put these traffickers in substitutes out of business. We can imagine no more despicable man than one who for money will sell that which will endanger the lives of unfortunate people.

Many physicians living in New York, who have never dispensed a tablet or powder in their professional careers are thinking of adopting this method of insuring their patients pure drugs. If the retail drug trade does not purge itself of its panderers, the physicians will have no other course to pursue. For the sake of suffering humanity as well as of honest pharmacy we trust all right thinking druggists will co-operate with the medical profession in demanding that the people be supplied with drugs that are pure in quality and honestly compounded.

WAR ON PUBLIC CONVEYANCE MICROBES.

The extra duties imposed by the last Congress upon the United States Public Health Service have quickly been assumed by Surgeon General Blue and his corps. Already an order has been issued for the purpose of discovering the sanitary condition of all passenger trains and vessels engaged in interstate commerce and this is, we take it, the first step in the assumption by the government of public health matters under the recent legislation.

Most physicians have long felt that the plush seats in trains and on steamers form excellent media for the transmission of the germs of disease and there has been considerable agitation in favor of some form of cane seats which can be easily washed, but so far with little success. This will have the attention of the public health surgeons.

We trust they will also be able to enforce rules regarding the proper ventilation of trains. The air in the average car in the winter is vile and a constant source of danger to the traveling public. It is a perfectly simple matter to so govern the air in a conveyance that a fresh supply can always be at hand. This fact was recently perfectly demonstrated at Dartmouth College, which is situated among the White Mountains, where the temperature runs low in the winter. The faculty noticed that a considerable percentage of the students suffered from colds and influenza during the fall and winter months. Dr. Howard N. Kingsford, professor of bacteriology in Dartmouth Medical School and medical inspector of the college, determined to regulate matters so that disease would be reduced to a minimum. Consequently he examined the air in every room of every dormitory, an almost herculean task in a college with over 1,300 students. He located the source of the colds and influenza and incidentally he discovered one or two cases of tuberculosis from the sputa he found, as well as cases of minor disease. As a result of Dr. Kingsford's painstaking labors, the sick-list in Dartmouth College has been reduced to a minimum and the efficiency of the student body has been increased to a perceptible degree.

The public health surgeons, through their wide ramifications, can perform an equally effective and valuable service to the country by a careful examination of all of our public conveyances and in this work they will have the co-operation of the profession, of which they are such useful members.

THE BASIS OF NEURASTHENIA AND THE PSYCHOSES.

The virile mind ought to court some danger in life. Civilization entails a kind of effeminacy, if we apply it consistently. We pay a dear price for it if we succumb to the friction of its complex, elaborate machinery and lack adaptive power. The reiteration of these trite remarks, often stated by others, may help us to keep our mental perspectives right.

Boris Sidis has especially emphasized the part played by fear in the etiology of mental pathology. "Science has taught us enough to make us speculate about what is going to happen, but not enough to make us feel secure in our speculations. We know enough about our bodies to be on the watch for any symptoms of disease, but not enough to preserve us from false fears." The neurasthenic is largely one who fears life. He makes a fetish of security, which is unattainable in any high degree, and does not know how to wrest pleasure, happiness and health from the excitement that comes from his relative insecurity, which was primitive man's escape from the tediousness of life.

We talk much about what we do not understand, thus engendering speculative fears, and we are forever being reminded of dangers by self-appointed mentors. The "education of the public" has an evil side. We merely pretend much scientific precision, befog issues, and ultimately tend to an accentuation of insecurity when realization that disease is still largely a mystery comes. We complicate issues without understanding them with any real fulness.

The fears that beset primitive man were understood by him and met in courageous fashion. Despots, wild beasts and wilder men could be sensed and met with no vague conceptions as to their meaning. Then as Crile, of Cleveland, has so well pointed out, man's vasomotor system reacted normally to real and adequately met tests. Crile finds in our vasomotor confusion the genesis of such diseases as exophthalmic goiter and other examples of vicious thyroid activity. Only plagues overwhelmed primitive society, but even plagues were understood to the extent that they were known not to be conquerable by the medical art of the day. There was nothing doubtful as to their power to destroy.

What is the remedy for our fear of life? We cannot halt civilization for the sake of the bewildered ones and hark back to the courageous manhood of an earlier day.

We must set ourselves to the mastering of *definite* tasks. This will "fill us with a sense of the rational order of the universe." We must pay attention only to what we can understand. We must abjure mysteries and mystics.

A QUESTION IN ARITHMETIC.

A recent editorial called attention to the great burden upon taxpayers as the result of crime and degeneracy. We are of the opinion the tax rate is 40 per cent. higher than it would be if proper eugenical standards were recognized and lived up to.

In this connection some facts from the tenth biennial report of the State Board of Control of Wisconsin Charitable and Penal Institutions will be of interest. The board has 11 State institutions under its care, and has supervision over 32 county asylums, 71 jails and 46 poorhouses. The total amount expended for poor relief for the year, including the maintaining of poorhouses and out-door relief, amounted to $541,750, which was greater by $100,000 than that for 1899. The expenditures for the maintenance of the various State institutions and the 32 county asylums amounted to $1,670,904, to say nothing of the enormous sums invested in lands and buildings. Wisconsin's tax rate is high and is made unusually so by the great sums paid out to maintain degenerates.

What would the citizens of the commonwealth pay for the support of its State institutions if they had sterilization laws and the other necessary accessories?

Medical Editorial Table

THE SOCIAL VALUE OF MEDICINE.

The sociological value of the science and art of medicine are both receiving much attention of late and it is good augury for the future. Profound changes in civilization have resulted from scientific medical discoveries since the middle of the nineteenth century. Their practical application has made it possible for people to live in health and comfort where death was formerly the penalty. Modern cities would melt away in six months were we suddenly to deprive them of improved sanitation. This is not realized by many laymen. The whole framework of modern life is built up of sanitation. The profession's duties are now semi-public, though still primarily concerned with personal service to the patient. It is to be hoped that sociologists and economists the world over will take up the crusade started by Professor Fisher of Yale University and emphasized recently by Professor Bardeen for the conservation of life and health—the best of our national resources. There must be no lukewarmness toward a great movement for the betterment of society on medical lines. Public callousness as to human life is slowly melting. They who make public opinion should demand to have all diseases cleared up by organized effort instead of the haphazard work of self-sacrificing private investigators. This is not paternalism or oppression, and does not seriously threaten loss of personal liberty, but merely a common-sense proposition to keep alive as long as life is worth living. What we most want—health—is least considered by governmental agencies. The increasing demand for a governmental department devoted to all public health matters should soon be strong enough to show results, but no action will be taken until the voters are overwhelmingly in its favor. It is a time for talk.—(*Interstate Medical Journal*, September, 1912.)

Immigration as a Factor in the Increase of Insanity.

Eight years ago the special census reports indicated that the number of insane in the United States was increasing relatively faster than the population. There is evidence that this disproportionate increase still continues. John B. Macdonald has shown that making all allowances for the increasing tendency to place mental defectives of all sorts in institutions, thus reducing the number of the unknown insane to a minimum, there is nevertheless an actual augmentation of the number entirely out of keeping with the natural increase in general population. The problem of preventing the multiplication of our mentally defective stock is becoming daily more acute and perplexing. There is one method of easy application which, properly enforced, will serve to prevent the unnatural increase of defective stock. This method consists in taking means to see that our immigration laws are properly administered and enforced. The mentally defective alien cannot lawfully be permitted to land in the United States. It is the alien and his children who are filling our state institutions to overflowing. The special census reports for 1903 showed that the proportion of feeble-minded in institutions in the United States was four times as great for the foreign born as for the native. In the New York City public schools in 1911 there were 125 ungraded classes in which backward and defective children were grouped. Nearly all these children were the offspring of foreigners. Not only are the feeble-minded largely recruited from this class, but the insane, likewise, are chiefly supplied by the newly arrived immigrants. In New York State during 1908 the admissions of foreigners to insane hospitals numbered 2,548, which was practically half of the total number admitted. We are at a loss to understand the lukewarmness of the

Federal authorities toward this question. During the year 1911 out of a total of 900,936 aliens applying for admission into the United States, only 318 were debarred on account of any mental defect, over three times this number of newly arrived immigrants found their way into the psychopathic wards of New York State institutions during the same year. These figures are eloquent of a neglected public duty. We have scarcely advanced a single step in the actual prevention of mental diseases. This is as much due to wilfulness and official laziness as it is to ignorance.—(*Boston Medical and Surgical Journal,* August 22, 1912.)

Note:—The recent attempted assassination of former President Roosevelt has a distinct bearing on this subject. His assailant was an alien. So was the murderer of President McKinley. Is this not an argument in favor of a restricted immigration and a more careful examination of the history and mental condition of every person admitted to our shores?

EDITOR.

Anesthesia as a Specialty.

The organization of a National Society of Anesthetists on the occasion of the last meeting of the American Medical Association marks an important advance in the evolution of anesthesia into a distinct specialty. Next to the surgeon himself the anesthetist occupies the most responsible position in the performance of a surgical operation. It is surprising that the administration of anesthetics is still so largely entrusted to those of limited knowledge and experience. England has set us an example that we have been slow to follow. For many years interest in this field has been promoted there by societies of anesthetists, and most of the larger hospitals have professional anesthetists on their staffs with well-defined duties and responsibilities. The services of such experts prove invaluable in the training of internes for this work. The multiplication of professional anesthetists should also exert a beneficial influence upon the surgery done outside of hospitals; in many of our large cities they are already in constant demand and the importance of this specialty is fully recognized. Much more attention should be given in our medical colleges and post-graduate institutions to imparting a thorough knowledge of anesthesia, so that the general practitioner will be better equipped to undertake this work, if he has not had the benefit of a hospital training, and this is particularly desirable in the large field of emergency surgery. There is a legitimate demand for a specialty in anesthesia as a means of not only simplifying the duties of the surgeon but adding to their efficiency.—(*International Journal of Surgery,* August, 1912.)

Pensions for Mothers.

The States of Missouri and Illinois have already adopted a piece of legislation which makes a great stride toward the abolition of disease and crime because it tends to lessen poverty, the parent of those scourges of mankind. Colorado and Massachusetts, it is said, are framing similar bills, and now comes Ohio with an official recommendation from the commission to codify and revise the laws of that State relative to children, that dependent and delinquent children in the State be placed in homes in private families with clean and wholesome environment, and that institutional life be done away with. But the most important part of the recommendation is that: "Women having children whose husbands are dead, disabled or imprisoned and not contributing to their support, should be given under order of the Juvenile Court an allowance of $15 for a mother and one child, and $7 for each additional child per month, providing upon proper investigation that such a pension will be necessary to hold a home together." It was John Spargo who first reached the ear of the general public on this subject. Alice Maxwell Appo has said that "The placing out system and the cottage plan are modern endeavors to provide the home atmosphere now recognized as essential; but they are substitutes at best. The real home and the real mother are immeasurably better. * * * Mere food, shelter and clothing have proved insufficient to supply the needs of childhood." The attainment of the reforms proposed in this field will advance us another station on the road to the eradication of tuberculosis and syphilis, for these are but the natural terminations of the sequence poverty, ignorance, delinquency and crime.—(*Lancet-Clinic,* August 24, 1912.)

Philosophy, Science and Medicine.

"No philosophy evolved from the inner consciousness of man has ever done man half the good that has been secured to him by the discovery of the agents of infection. In fact, no discovery in science has failed to better the lot of man." These are the significant words with which Prof. V. C. Vaughan of the University of Michigan replies to the strictures of those modern writers who charge science with being essentially materialistic in its aims and scope. Those who evolve what they assume to be an exalted idealism out of their inner selves are all too frequently in apparent ignorance of the real contributions which science has made alike to knowledge and to human happiness. Confident that the "inner life" contributes some superior sort of moral worth to the individual, they fail to grasp the significance of the forces about us and the biologic tendencies within us which determine in largest measure what constitutes human welfare and social and racial betterment. Scientific men build their idealism solidly up from the ground; they do not suspend it precariously from starbeams. In the sphere of evolution we deal with potent factors that call for the best effort in behalf of the race. What higher incentive can there be to keep one's self clean morally and physically than the facts derived from the study of heredity? The undeniable influence of environment in the modification and improvement of the species makes it apparent that every effort to improve the conditions under which men live is based on motives quite as dignified and worth while as the musings of the philosopher who claims to cultivate the good and beautiful for its own sake. Our knowledge of the spread of infection is the strongest factor in the social movements of the day. The philosophy of science concerns itself with this world and this life and reaches every condition. It is a truth that the dicta of science are a high, noble and powerful incentive to righteousness. "To widen the domain of knowledge, to abate disease, to lessen pain and suffering, to decrease the burden of poverty, to brighten and ennoble the lives of others, to harness the forces of nature and make them subservient to man's will and contributory to his happiness * * * to make man more considerate of his fellow, to appreciate and perform his duties—these are some of the things that science has done and is doing."—(*Journ. of the A. M. A.,* Sept. 21, 1912.)

Experiments on Animal Tumors.

Tumor cells show two peculiar characteristics, very quick growth and very rapid dissolution. It has been shown that an increased and abnormal activity of fermentation is manifest during the dissolution of the cells. The aim of all experimenters has been to increase this fermentative activity and so influence the autolysis of the tumor cells without injury to the organism itself, that is, to find substances which show a "tumor affinity." Neuberg, Caspari and Löhe report good results with combinations of copper, tin, platinum, and especially of cobalt and silver. In the case of a mouse with tumor they assert that the effect of a solution of platinum or cobalt is fulminating; a single injection dissolves a tumor of considerable size in a period

of twenty-four hours. The same good results have been obtained in the rat and the dog. Fluid drawn off when the tumor is disintegrating was found to contain minimal traces of albumin and to consist mainly of albumoses, peptones and aminoacids. The red coloration of the biuret reaction showed that there were present decomposition products of albumin. The formation of the autolytic fluid of the disintegrated tumor the authors compare with lysis in pneumonia. These experimenters assert that they have found a combination of metals which will attack and dissolve carcinoma as well as sarcoma cells in mice, rats and dogs, without injury to the organism itself. Thus we have at the present time two chemical substances which produce a disintegration of malignant tumors in animals without injury to the host, one the eosin selenium combination of von Wassermann, and the other the metal combination herewith described.—(*N. Y. Med. Jour.*, Sept. 14, 1912.)

Hospitals and Sanitaria

THE INTERN CONSIDERED IN RELATION TO THE HOSPITAL AND THE MEDICAL SCHOOL.*

REUBEN PETERSON, M. D.,
Professor of Obstetrics and Gynecology in the University of Michigan; Medical Director of the University Hospital.
Ann Arbor, Mich.

During the past twenty-five years it has fallen to my lot to be a medical student, hospital intern, hospital superintendent, member of a hospital staff, and medical director of a large teaching hospital. Thus, if first hand experience counts for anything, I ought to be in a position to discuss dispassionately the subject of the present paper, the relation of the intern to the hospital and medical school. In other words, it would be inexcusable in me to attack the problem from a single standpoint. Nor would such a discussion be very profitable, since the three, the hospital, the medical school and the intern are so intimately associated and so dependent one upon the other that the intern question cannot profitably be considered without reference to the other two.

It is very apparent, except to those who refuse to see, that the whole subject of hospital internships has undergone radical changes during the past twenty-five years. A quarter century ago, the larger hospitals had something the medical student about to graduate greatly desired, and there was much competition to secure these coveted positions. In those days it was very seldom that competition was open to medical students other than those in the medical school with which the hospital was associated. The best students in the graduating class of this school fought for these positions the lucky ones were happy and entered gaily upon their hospital duties, while the unsuccessful were depressed and went into practice without their hospital experience.

At the present time is it not true that the situation is reversed? Now the hospitals are competing for interns, taking them not only from their own schools, but from anywhere they can be secured. One has only to watch the bulletin board of a medical school to be convinced that this is true. Recently I had occasion to sent a questionaire relating to interns to most of the large hospitals of the country, and there were very few where internships were not open to general competition. This is not because the hospitals are more broadminded and welcome interns from a distance, but because the local supply of applicants has diminished to such an extent that there is difficulty in securing interns enough to satisfy the demand.

In fact, supply and demand govern hospital internship just as these two factors govern other commodities. Each year there are a given number of medical students graduating who are ambitious and anxious to round out their medical course with hospital clinical opportunities; as a matter of fact, there are many more medical students graduating each year than twenty-five years ago, and were it not that the number of hospitals has increased proportionately more than the number of applicants for hospital positions, the hospitals would still be in a position to dictate terms to applicants for internships. Only those who have looked into the matter have any realization how the number of hospitals in this country has multiplied during the last decade or two. To be sure some of these hospitals are small, not very well equipped, and in no way fitted to compete for interns with the older and larger institutions. Yet the smaller hospital has gradually recognized the situation with the result that an honorarium of some hundreds of dollars is often held out to offset the lack of clinical facilities, and many a poor student, ill advised, succumbs and wastes his hospital year in the endeavor to acquire money and clinical experience at one and the same time.

Another factor must be taken into consideration in the attempt to explain the diminution in the supply of good interns, namely the inducements offered by corporations for the medical services of the young graduate. Just now it is popular to take a fling at trusts and corporations, but aside from the justice of such attacks, it is quite generally conceded, I think, that corporations having to do with copper and coal mines, lumber and steel are not asleep, but know what they want and manage to see that these wants are supplied. They recognize that the recent graduate most of all desires clinical opportunities, and these are furnished as far as the circumstances of each case will permit. But they do not stop there, for if necessary they pay salaries, in most instances small, but enough to switch a certain number of men needing the money into their services.

Nor should it be lost sight of that the laboratory side of medicine has enormously developed during the past few years. Pathological laboratories, those devoted to bacteriology, physiological chemistry, serology, *x*-ray, et cetera, are all clamoring for the recent graduate, and must necessarily, if they are to secure him, offer opportunities and a good salary. During the past two decades asylums for the insane have greatly multiplied in America. They too need the recent graduate, and offer not only fairly good clinical experience but comparatively large salaries with room and board in addition.

Far be it from me to decry the efforts of those enumerated above. Their wants must and should be attended to, and can be when our medical schools, as a body, turn out well educated physicians. But the particular question before us to-day is that of the general hospital intern, and this theme is broad enough to demand our entire attention.

Thus far we have spoken of outside influences making toward a scarcity of desirable applicants for intern positions in hospitals large enough to offer good clinical opportunities. But what of the conditions within such hospitals tending toward making intern positions less desirable than formerly, and thereby diminishing the supply of desirable applicants. If such conditions exist, and I believe they do to a certain extent, they must be disclosed and changed, if the demand of the hospitals for competent interns is to be supplied.

"It must be remembered that the development of the highest type of hospital internist, surgeon, and specialist, has carried with it the employment of many assistants. The hospital chief in order to obtain the highest grade of work brings his paid assistants into the hospital with him. They are paid to take accurate histories, make minute examinations, assist at operations, and do careful pathologic work. The hospital chief finds that it pays him in every way to keep one or more assistants a number of years. They, in turn, are only too willing to serve their apprenticeships, not only for the salaries they bring, but for the experience which they consider of value. There is no criticism of this system, for it makes for high, first class scientific medicine and surgery. But the fact remains that the intern, often times by the

*Read at the meeting of the American Hospital Association, Detroit, Mich., September 27, 1912.

very nature of things in the very highest type hospital, is suffering from the above mentioned system. In other words, he is being crowded out, pushed to the rear and is having his opportunities for learning gradually taken away from him. In some hospitals he is not much more than an orderly except that once in a while in an emergency he is allowed to prescribe for a patient. This picture may seem to be overdrawn and in many hospitals no doubt the opposite conditions exist, but that it is true in other hospitals is undeniable.*

The time is past when any hospital, no matter how large and well equipped, or how splendid may be the personnel of its clinical staff, can afford to assume a high and mighty attitude toward its intern staff. That undoubtedly was possible years ago, and the injustice suffered by some of us at the hands of the hospital and its staff still remains fresh in our minds. The times have changed and the members of the graduating classes know what they should rightfully expect of a hospital in return for the greatest gift in the hands of a young physician, a year's time devoted to hospital work, and one of the most valuable because of being one of the most receptive years in his whole life. Now, I believe that the hospital is perfectly willing to do what is right by its interns, if once it firmly grasps what is just and proper. The difficulty with the intern question, it seems to me, lies in the fact that it is a border line affair, if I may be allowed to thus speak of it. It has suffered from being at one and the same time something medical and yet non-medical. No matter what the organization of the hospital may be, the intern has been neither fish, flesh nor fowl. Intimately associated with the clinical staff and dependent upon its members almost entirely for what he gets out of his service, the interns' position is often determined by another hospital authority, the superintendent, or a committee of the board of trustees. This was clearly shown in the questionaire already referred to. Thus it has resulted that the intern staff in a general hospital, as a body and an important part of the hospital organization, has not received the study and attention by the hospital it should have received. Understand me, please, if this is not true in your own hospital, I am not referring to you. I am speaking in general terms as applied to hospitals and hospital interns in general, and I believe it to be true that the intern question has not been as seriously considered as has been the case with the training school for nurses, hospital diet, sanitation, and a dozen or more hospital matters you are accustomed to discuss at these meetings.

The remedy for this condition of affairs is simple enough. The entire intern question in any hospital should be entrusted to a committee made up in various ways according to the organization of the individual hospital. This committee should give its own intern problem careful and thoughtful consideration. If the hospital is not giving its interns enough, ways and means should be provided to remedy the situation. Give and take so that there is the right feeling, and the utmost co-operation, should be the watchwords of the two parties to the contract, the hospital and the intern.

And that brings us to the consideration of how that contract can best be drawn and necessarily brings in a third party, the medical school, vitally interested in both hospital and intern. A very casual review of the case will convince almost any one that the medical school in this country has been very remiss in not providing for and safeguarding its young graduates as far as clinical opportunities are concerned. In a desultory kind of way, the medical school has interested itself in providing hospital positions for members of each successive graduating class. It has urged the advantages of hospital training and has been pleased when certain of its men won places in hospitals, but in reality, there never has been as much systematic thought given to this question as has been the case with educational problems connected with the four year medical course. Yet the students' clinical year is fully as, if not more important, than is any of the four years spent in the medical school. Without guidance or oversight, not only may the young graduate in medicine make a poor hospital selection, but he may acquire such bad medical habits during this hospital year as to give him such a poor start in his life's work and render valueless much of the good teaching received during his medical course. Medical schools as a class have seemed to think their responsibilities ceased when the medical diploma has been given. In reality their clinical responsibilities have only begun, and by neglecting to participate in the educational advantages of the fifth or clinical year they have shown a deplorable lack of wisdom.

However, there are signs of a change for the better during the past few years as shown by the discussions among medical educators of the desirability of a fifth or clinical year as an integral part of the medical course. One or two medical schools have even announced that after a certain date a fifth clinical year will be compulsory. In my opinion such action by a medical school is premature and ill advised unless it has thoroughly canvassed the hospital situation and is in a position to advise the medical student what hospital to try for, or has made suitable hospital arrangements for its students. For there are hospitals and hospitals. In some the intern learns much, in others very little. It is as much the duty of the medical school to make adequate arrangements for this additional year as it would be to see that a laboratory be properly equipped, if it be decided that its students must take such a course before receiving a degree.

Not long ago I saw the truth of this illustrated. I operated in a hospital of less than a hundred beds, situated in this State. A young man was spending his fifth clinical year in the hospital, so that he could receive his degree. As far as I could see, he was learning nothing or next to nothing in this hospital. He did a few dressings, gave a few anesthetics, examined the urine, and did the dirty work of the institution, where there were no public beds, no trained medical teachers, absolutely nothing from which he could profit. A medical school accepting such a clinical year in such a hospital is a party to a fraud on the public. Far better would it be to give such a man his diploma and let him gain his practical experience in private practice, as many a good man has done before him.

The medical school must proceed to the fifth or clinical year slowly, systematically, and intelligently. It must cooperate with certain well equipped hospitals with a view of elaborating an intern service equally beneficial to the intern and to the hospital. It will have it in its power, since the intern is still without his degree, to see that the latter's contract with the hospital is rigorously lived up to. For is it not true that hospitals suffer most from irresponsibility on the part of its interns? The latter accept appointments to services for a year or more, yet in many instances have no compunction in leaving at any time during their service, if it be to their benefit. I have just received a letter from a western hospital, well equipped in every way for clinical teaching, with a record of fair treatment of its interns, stating that one of the graduates placed there last year has left without warning, upon the excuse that he did not like the hospital food. And this is only one instance of many. Now, the school has no real hold on this man. It has done its best to place him in a good hospital, but it cannot re-

*The Relation of the Medical School to the Hospital or Intern Year. Peterson. The American Medical Association Bulletin, March, 1912, vol. 7, pp. 199-206.

voke his diploma if he acts in a dishonorable manner. How different would be the case had the young man been placed in the hospital for a year, his diploma depending upon the kind of service he rendered the hospital and upon his ability to show the medical school that he had profited by his clinical year.

The matter of what the hospital should furnish the intern in return for the latter's time and labor could be calmly and fairly discussed between hospital and medical school, or a combination of certain grade hospitals and certain grade medical schools. Such a discussion would probably bring out many differences of opinion as to what is most profitable for the hospital intern and what in turn makes for the hospital's good. But undoubtedly such a discussion would result in changes beneficial to all parties concerned. It would do away with controversies between the hospitals and the interns, disputes always unprofitable and necessarily leading nowhere since a hospital must maintain discipline even where it feels its position is somewhat untenable. Nor do young men of the intern age always realize what is best for them clinically. Far better would it be for such matters to be settled between hospital and medical school, the former always aiming, as far as lies in its power, to make the clinical year more profitable for the intern, the medical school in turn preparing its students for the clinical year, and keeping them up to their work during this period.

Just what hospitals should be entitled to the best students from the best schools is a difficult and delicate question to settle, but I am sure it can be and will be settled within a comparatively few years. It goes without saying that every hospital desires the very highest type of student for intern. But this cannot be brought about without it, in turn, offers to the intern the highest type of service. One way of determining the kind of service offered by hospitals would be to have the latter reported upon, as has been done by the Carnegie Foundation in the case of the medical schools. Such a report might cause some heart burning and grumbling among certain hospitals, but leaving aside the personal equation, would undoubtedly result in good. The supposedly inferior hospital might show up well in such a report, while the hospital with larger equipment and many beds might be woefully weak as far as really giving the intern value received is concerned. Certainly the Carnegie report and the work of the Council on Medical Education of the American Medical Association have made toward improvement of the medical schools. Why should not a similar report on hospitals also tend to improve their standards.

But as I have said, this is rather a delicate subject, and one I prefer to touch upon rather than to discuss at length.

After all, there is hope in the thought that each one interested in the subject under discussion, is desirous of arriving at the same goal. The hospital, by offering a good service, is anxious to secure a good intern; the intern is looking for a good service and an opportunity of putting in his clinical year to the greatest advantage; while the medical school wants to see each secure what is desired.

The mortality among infants during the first year of life is 19.4 per cent. of the total mortality of all ages and from all diseases. The commonest cause of death during the first three months of life is prematurity; other causes are congenital debility, malformations, and birth injuries.

Surgical scarlet fever and scarlet fever following burns are scarlet fever in the wounded, and should be treated and regarded as ordinary cases of the disease.

Old tonsillar infections are more frequently the cause of acute nephritis than is generally recognized.

THE AMERICAN HOSPITAL ASSOCIATION.

The annual meetiig of the American Hospital Association was held in Detroit, September 24-27 and the program published in our August issue was fully carried out. A brief synopsis of some of the papers follow:

Hospital Accounting."—Dr. J. S. Draper, Superintendent of the University Hospital, Ann Arbor, Mich.

Hospital efficiency, finances, and economics of administration are among the greatest problems we are called upon to meet every day.

Every hospital, whether large or small, must first consider the source of income necessary to meet the current expenses. We are soon called upon to meet the much-needed extensions, improvements, and repairs. Uniform classification of accounts would be of inestimable value, which would enable all the hospitals to accurately compare the per capita cost in each department and thus create a strong, healthy rivalry.

What is the greatest objection which stands in the way of a uniform classification of accounts?

1. One upon which all can agree as being suited to their special work.

2. The cost of voucher register and necessary blanks, vouchers, checks, etc.

3. Is the voucher system advised, and does the result warrant the extra cost of labor?

4. I am convinced by personal experience that it is the only system whereby an accurate audit can be made of receipts and disbursements.

5. A fair trial will convince the most skeptical person that the amount saved will soon make up for the additional expense.

6. How can a uniform classification of accounting be brought about?

7. By the association appointing a committee in whom you have confidence, then accept their recommendations and adopt them.

8. Careful and accurate accounting of hospital supplies will soon call your attention to the leakage and waste here and there, which is essential in order to make your hospital self-sustaining.

9. Every hospital should have an experienced storekeeper who knows how to handle supplies.

10. No supplies should be issued from the storeroom except upon a requisition signed by the superintendent or his duly authorized agent.

Present-Day Obligations of Hospital Trustees.—R. P. Borden, Esq., of the Union Hospital, Fall River, Mass.

He said a hospital trustee should realize his position of trust as well as of honor; secure a competent superintendent as representative of the trustees, and, having done so, stand behind the superintendent in carrying out the policies of the hospital; not interfere as an individual in the management of the hospital, but act as a board, through the superintendent, with relation to internal policies, and through the secretary and duly authorized committees as to other matters; before acting, secure expert advice on all professional matters; have sufficient knowledge of the institution to act wisely, and to that end become somewhat familiar with all its departments and the work which is being done; realize that it is the function of the hospital to preserve the physical efficiency of the community which it serves; that it is impossible for the hospital alone to do this, and, therefore, have an interest in public hygiene, sanitation, social service, and housing problems and the agencies available in his communty for carrying on this work; and, in so far as possible, endeavor to bring about co-operation between the hospital and all such agencies.

Contribution to Problem of Convalescence.—Dr. Fred. Brush, superintendent of the Burke Foundation, New York City.

Reasons for presenting thus early plans and programme of work of the Burke Relief Foundation Convalescent Institution.

Great need of institutions for convalescents and chronics. Full capacity of new institutions, on 60 acres of land, 20 miles from the city: 300 beds. Provision being made for classification of patients, motor transportation, adequate medical and surgical treatment, possible shortening of hospital stay, physical therapy, physical "setting-up" of the guests through dental and eye, ear and throat service, valuable patients' records, year-round diversions and occupational instruction, outdoor sleeping, various social helps, close relations with existing organizations and with patients' physicians, how not to increase the convalescent "rounder," city admitting station to do important clearing-house work, etc. Questions of probable effectiveness along these and other lines.

Operating-Room Economy.—Asa Bacon, Superintendent of the Presbyterian Hospital, Chicago, Ill.

I shall treat the subject from a purely business standpoint and not a professional one. I believe it is the duty of the superintendent to co-operate with the surgical and nursing staff, so as to bring about proper team work, as well as to provide suitable supplies, instruments, etc., to produce the very best results for the patient. It is a fact, however, that very few superintendents know how rubber gloves are made, and as this is such an important item of expense, and as there are so many poor gloves on the market, I shall, as a matter of information, tell you in as few words as possible how one of our leading manufacturers makes gloves.

When the surgeon throws aside a pair of gloves, mend them for the interne, and from the interne send them to the floors for dressing purposes. So far as possible, buy heavy gloves. They last much longer, and are cheaper in the end.

As a matter of information and comparison, my bill last year for all rubber gloves used in the hospital was $522. We cared for 2,,609 surgical patients, including 244 obstetrical, and had 2,702 operations. This makes 20 cents per surgical patient for gloves.

From my experience, I find 16-20 gauze, 20 to 21 yards to the pound, shipped in packing boxes, the most economical. By carefully buying and selling the boxes, your gauze bill should not be out of proportion to your other items of expense, providing proper economy is used in distributing.

Suture Material.—Silkwork gut, catgut and surgeon's silk can be purchased to better advantage in the raw state and prepare it yourself.

Rough German catgut, No. 0-1-2-3, is a very economical catgut to use. However, many surgeons prefer the smooth. Braided silk, whether white or black, is stronger and more economical than the twisted.

Iodine Method of Preparing Catgut.—Roll catgut tightly on glass reels. Tie ends firmly. Drop catgut as wound into clean glass jars. (Mason jars will do.) Cover catgut with solution of iodine 300 parts, ether 1,700 parts, and leave immersed for seven days in air-tight jars. Then pour off iodine solution into original bottle or on to freshly wound catgut. Pour ether (commercial) on sutures. Keep pouring off and on until the ether solution comes away clear.

Preparation of Silk-Worm Gut.—Wind around fingers to curl so as to occupy less space. Boil for half an hour in covered basin; remove with sterile forceps; place in covered sterile jar, and cover with 95 per cent. alcohol.

The anesthetic bill can be greatly reduced and at least a part of the anesthetist's salary can be met by extra fees from patients who wish the services of an expert.

Small hospitals having one operating-room can easily install their own nitrous oxide plant, provided they have a small room, say 8x10 feet, adjoining the operating-room.

In using ether it is economy to buy the best and purest.

Gowns.—Gowns can be made cheaply in the sewing-room, at the same time using a pattern to suit the surgeon. The cost is from 75c. to 90c. each, according to material used.

Some Small Leaks, and How to Prevent Them—A large pad of gauze is often used to wash a patient when a sponge or two is sufficient.

The worn-out towels can be made into pads to wash patients.

Large, thick pads put on clean surfaces absorb more alcohol, but some operators consider a large pad necessary.

Save the gauze. You can greatly reduce your bill by washing, sterilizing and using it again.

Use cheap cotton or gauze for pads instead of the high-priced absorbent.

Use cheap cotton for clinking windows and doors when fumigating. Save the cotton and use it again.

Laundry bags and cans of waste should be carefully watched. You will find an occasional instrument and pieces of linen in them.

Replace glass-top tables as fast as they break with porcelain, enameled iron or nickel.

Use bottle dispensers for alcohol and liquid soap instead of pouring on the hands in the old way.

Bags used for sterilizing utensils, when worn out, make good dust cloths, iron-holders in the laundry, and they can also be used for wiping machinery in the engine-room.

Urethral catheters are ruined by boiling. Save them by sterilizing in alcohol.

Mend the gloves. They can be used by the internes and nurses in the operating-room, and for dressing patients.

It is economy to have uniformity of solutions, uniformity of sutures, uniformity of needles, uniformity of instruments, uniformity of everything so far as possible.

Diet, Hygiene and Nursing

SOCIAL SERVICE.

At the recent meeting of the American Hospital Association, Miss Ida M. Cannon, of the Massachusetts General Hospital, presented a paper on the social service at her institution. She said in part:

The physical basis of many phases of degeneracy, while always more or less clearly recognized by students of social problems, is receiving to-day constantly new emphasis. In schools, for instance, the backward child or the habitual truant is no longer flogged—at least not until he has been examined as to a possible physical basis for his defect, in weak eyes, defective hearing, adenoid growth, etc. Telling experiments along these lines in various reformatories and penal institutions are being made. The Federal Government is spending a vast sum of money in experimentation along these lines.

But if the physical basis of mental and moral defects is gaining recognition, so also is the truth that the physical body does not tell the whole story to the physician who would diagnose physical disease. Failure to count with the psychic factor, with the power of suggestion, etc., has limited the possibilities of the physician to achieve results. To this cause may be traced the origin of many of the so-called mind-cure cults. Christian Science, is a monument to the failure of medical science. This short-sighted attitude is being rapidly overcome.

Of equal importance in the successful treatment of disease is the recognition of disease as a social symptom. Impossible to deal with certain phases of disease without tracing them back to their root causes, e.g., child labor, bad housing, overcrowding, sweatshop, long hours of work, etc. Failure to count with these conditions explains why patient, apparently well on leaving hospital, returns again and again.

In showing what has been accomplished along these lines she brought arguments for and against the view that the social service department should be an integral part of the hospital, and she also discussed the visiting nurse, the charity clinic and its opportunity, and the paid vs. the volunteer worker. She emphasized the necessity of gaining the social viewpoint which

emphasizes the family rather than the individual as the social unit, and she showed the indirect social service rendered by the hospital.

A New Idea for Tag Day.

The Visiting Nurse Association of Jamestown, N. Y., raised $1,325.55 on its last tag day by a novel method. Instead of following the usual and somewhat embarrassing method of pinning a tag on every giver for his own protection, the association sent out a scarlet envelope on which was printed in black, "Better Than a Government Bond—the Bond of Human Sympathy," and enclosed was a small manila envelope, with a place for name and address of donor and this letter, signed by the names of the Board of Directors:

AN INVESTMENT THAT PAYS.

An investment of kindness on your part will make it possible for those of our city who are unable to afford the cost of hospital care, yet needing professional service, to have the aid of the visiting nurse whose mission is to give the patient professional attention, supply sick-room necessities for the patient's comfort, and to give such instruction as will enable the family properly to care for the patient.

There are many chronic sufferers in our city to whom the visiting nurse has been an untold blessing. Could you but see the legion of grateful mothers and little children to whom the nurse has been a benediction, you would say: "It pays."

During the last five months over thirteen hundred visits have been made.

To continue this helpful work requires more money. Your cheerful, cordial investment in this bond of sympathy is asked.

The Nurses' Food.

The kitchen, where the fuel for the body is prepared for use, is the most important part of any establishment, and it is not less so in a hospital. What is the reason that the nurses' bill of fare lacks variety and the proper adjustment of food values, asks a writer in the *American Journal of Nursing*. Want of care in the management, carelessness in the cooking, lack of attention in the serving and sometimes, though perhaps less frequently, injudicious purchasing. What is the great bugbear that stands in the way of improvement? Expense. Hospital boards wish to keep the expenses down to the minimum, and rightly so. The money entrusted to them is, in most cases, to be spent for the benefit of the sick poor, and every cent should yield its full value in service. This it cannot and will not do if it is carelessly used.

The nurse is one of the most important factors in the care of the sick. If she is not in a high state of efficiency her patient suffers. How can she give him the best service when she is only able to work at half speed for want of sufficient nourishment? It might have meant the difference of many hundred lives if the lookout on the Titanic had been furnished with proper glasses. The overtired, underfed nurse is not in a state to observe and report accurately, and, with the best will in the world, cannot give her patient that sustained attention which he needs for his best good. How can this bugbear of expense be demolished. Bugbears, like prejudices, can usually be destroyed if we can find the crack in their armor. Brains will do it. There should be a competent person in every hospital in charge of the preparation of food for the whole household, not only for the patients. Schools of dietetics and domestic science are turning out scores of graduates every year. One of these, who is also gifted with common sense, should be engaged and she should be required to produce results—the maximum food value at the minimum expense.

The service in a hospital dining-room should have special attention. Food intended to be hot should be served hot, on heated plates, and not lukewarm. A hot supper should be provided at midnight for the night nurses and eaten outside the wards. Complaints about the food should be listened to and, if just, the grievance should be remedied. Hospital managers will find the reward of their care in this matter in the better health, greater contentment and increased efficiency of their nurses.

Therapeutics

DIGITALIS.

Albert E. Taussig, of St. Louis, lays down the principles which should guid us in the use of digitalis Its interest centers in the therapeutics of broken compensation. Valvular lesions as such rarely require treatment. The treatment of broken compensation is largely independent of the nature of the lesion responsible for the incompetent heart muscle. No drug compares in value with digitalis. It is indispensable. In spite of the statements in the older textbooks, the beneficial effect of digitalis may be expected in myocardial incompetence, even where aortic regurgitation is present. The usual mistake is to give it in too small a dose. In primary chronic myocarditis, so-called, the picture is somewhat different, and digitalis should not be used if there are extra systoles, unless the heart has become incompetent, as shown by tachycardia, dilatation, dyspnea and the signs of passive congestion. In auricular fibrillation, commonly observed in the hearts of elderly people, causing a rapid and extremely irregular pulse and inefficient circulation, digitalis is most triumphantly successful, at least for a time. Large doses are required, yet the drug must not be pushed unduly. Reduce the dose of the drug when the pulse-rate has fallen to about 80 and try to maintain it at about that rate. In heart-block, as revealed by the cardiosphymograph and irregular pulse, digitalis may do very great mischief by further reducing the conductivity of the already impaired bundle of His. But if the heart-block is complete digitalis can no longer exert a deleterious action upon the conductivity of the bundle. It shows the beating of the auricles, the block becomes less complete, and the ventricles beat more rapidly. We thus have the paradox that, whereas in all other conditions digitalis acts advantageously by slowing the heart, in these cases of extreme bradycardia it benefits the circulation by making the pulse somewhat more rapid. Digitalis is absolutely contraindicated in partial heart-block, but in complete heart-block it may act advantageously. In infectious fevers and in shock digitalis is ineffective. A single exception is pneumonia. As to the preparations, the powdered leaf is excelled by none. The infusion possesses no advantages over the powdered leaf, and, unless carefully prepared, may be nearly inert. The tincture is an excellent preparation. In prescribing it, it is necessary to remember that it takes two drops of the tincture to make one minim. Knoll's digipuratum is a very valuable form of the drug, the irritating digitonin being removed. It has the disadvantage of being rather expensive. When rapid digitalis action is required it is better to use strophanthin, injected intravenously. Neither strophanthin nor any strophanthus preparation should be given by the mouth, since we can never tell how much of it will be destroyed in the digestive tract. As to dosage, the best results in broken compensation are obtained if the drug is given in massive doses. A dram of the tincture daily is a moderate dose (divided doses). In about two days the maximum therapeutic effect will usually have been produced. The dose may then be cut in half. If the pulse becomes irregular, on account of the production of extra systoles, too much has probably been given, when the drug must be discontinued for a time. After the severe symptoms of heart-failure have been overcome, tonic doses should be employed, as for instance a grain and a half of the powdered leaves or 20 to 25 m. of the tincture. As to the contraindications, digitalis is absolutely forbidden in cases of partial heart-block. We should hesitate to use it in cases of recent emboli, cerebral hemorrhage, aortic aneurysm and uremia, unless the need for it is imperative. In the tachycardia of hyperthyroidism and of cardiac neurosis it is useless and may do harm. Occasionally idiosyncrasy is encountered.—(*Interstate Med. Jour.*, August, 1912.)

Surgery

THE CAUTERIZATION OF DOG BITES—AN ERROR IN MINOR SURGERY OF MAJOR IMPORTANCE.

A. Monae Lesser, of New York, takes issue with those who take it for granted that a dog bite, or the bites of other animals and insects, venomous and otherwise, should be cauterized. Cases of sepsis following such treatment present themselves so frequently that the subject cannot be too much discussed until the real facts have become generally known. Cauterization immediately after receiving an extremely superficial abrasion might have seemed excusable before the physiology of absorption or the action of antiseptics was known. Why the local treatment of a wound produced by a bite should be different from any other infected wound, whether pierced, scratched or torn, is difficult to conceive. Cauterization is perhaps a relic of the ancient Babylonian practice of burning out with a sizzling hot sharpstone a large area around the bite of a scorpion. Laboratory experiments have shown that the effects of the plain, open wound treatment are vastly better than cauterization. Any interference with the process of expelling or immunizing the virus augments the seriousness of the condition. Free bleeding should be encouraged, as its outflow decidedly assists in cleaning the wound. Suction with a suction pump may be employed, or even with the lips, after holding in the mouth a solution of alcohol, water and iodine. The alcohol stimulates free bleeding. An acidulated pepsin solution may also be employed for this purpose. But the possibility of an abrasion on the lips must be borne in mind. The suction may be done by the patient if he can reach the part. When the suction does not produce bleeding it indicates that the blood capillaries were not injured and the poison is carried in the lymph channels. In these cases an application of wool-fat antisepticised ointment should be made. While such an application may exert no immediate special influence upon the internal portion of the wound, it keeps the parts pliable and permits the exit of the virus. The severity of constitutional effects of many of the poisonous bites outside of the poisonous snakebite is overrated. Where rabies or tetanus is to be feared suitable treatment is to be instituted, and in the case of venomous snakebites or other rapidly acting bite poisons we may have to ligate proximal veins or excise parts, or use antiseptic infiltrations, besides resorting to other accepted measures. Stimulation, lavage of the stomach and enteroclysis will lessen the effects of poison. Briefly, after a bite wound has bled freely and sufficiently, apply with moderate pressure a wad of cotton saturated with a mild antiseptic solution, such as equal parts of alcohol and water with a small percentage of iodine. The wad should be kept moist (not too wet) with a similar application, but with as little interference with the wound as possible.—(*American Journ. of Surg.*, August, 1912.)

Sprain, Fracture and Dislocation.

George G. Ross, of the editorial board of the MEDICAL TIMES, and L. F. Stewart, of Philadelphia, have contributed a valuable addition to surgical literature in a comprehensive study of sprain fracture as an essential to the occurrence of dislocation. Their reasoning is based on the fact that when tension is made on tendons or ligaments the bony tissue to which the tendons or ligaments is attached, and not the tendons or ligaments, give way. Therefore since the integrity of joints is maintained by strong ligaments, a luxation must occur by a giving away of one or more of the strong ligaments, and this giving way must be by the occurrence of sprain-fracture, and not by rupture of the ligaments. This reasoning applies to ordinary uncomplicated traumatic luxations, not the so-called pathological dislocations (those of slow production due to disease of the joint structures, and not those dislocations due to traum, that are permitted by rupture of diseased ligaments). They made thirty-eight experiments on anesthetized dogs to prove their theory, one of which is subjoined: The skin, ligamentum patella, and all tendon attachments around the left knee-joint were severed. The femur was held in a vise and the leg was grasped with the hand and hyperextended and twistd until the joint was flail-like (subluxated).

Examination showed no gross lesions of the capsule. Further, opening of the joint showed the external lateral ligament partly torn from its attachment to the external condyle of the femur; the tear involved the osseous and not the ligamentous tissue (a sprain-fracture). The tear was due evidently to a lateral twist, as it did not occur in the direction of the course of the ligament.

This experiment was done after it was found that weight aggregating 160 to 175 pounds, hung from the tibia, would not make the joint give way.

Of these thirty-eight cases, thirteen showed no dislocation; three cases in which an attempt was merely made to use a straining force, such as if increased would cause dislocation, showed avulsion of the tendons in the joint region; ten cases showed either fracture or epiphyseal separation above or below the joint receiving attention, two of these showed sprain-fracture in addition, but in neither of these was the integrity of the objective joint distinctly disturbed; seventeen cases showed subluxation, and in all sprain-fractures were demonstrable; further, four of them showed fracture in addition to sprain-fracture; eight cases showed complete luxation with sprain-fractures accompanying; four were also accompanied by gross fracture. In the ten other cases showing no luxation, fracture occurred, thus preventing the continuation of luxation-producing force and again demonstrating the superiority in tensile strength of the tendons and ligaments over bone. As previously noted, eight of the cases were fracture dislocations or fracture subluxations; though the same condition could have been and is occasionally produced by direct violence, these fractures, like the ten cases just mentioned, were produced through the agency of ligaments or tendons. Therefore the fractures forming part of the pathology of fracture dislocations are in reality sprain-fractures of enormous dimensions.

The twenty-five dislocation cases, seventeen of which were subluxations, all showed sprain-fracture.

In addition to the experiments on dogs the authors carried out a series of fifty-three experiments on cadavers. They summarize the result of their work as follows:

1. Practically all, if not all, dislocations are permitted by the primary occurrence of strain of tendons and ligaments, followed by avulsion of tendons, and then sprain-fracture or gross fracture.

2. It is possible that some dislocations are permitted to occur by separation of the fibers of the capsule in place of by sprain-fracture or gross fracture.

3. All dislocations should be skiagraphed and, if evidence of fracture is not found at first, pictures should be taken in many planes.

4. All dislocations should be treated as if fracture had occured, even in the event of negative *x*-ray evidence.

5. Some sprain-fractures are too small to be shown by *x*-ray pictures.

6. Often there is spontaneous reduction of dislocations, and sprain-fracture or gross fracture is the only evidence left that can be detected by *x*-ray.

7. The sites of sprain-fractures or gross fractures provide the foci from which the osteoblasts issue, in those cases showing excessive callus or covering of joint surfaces with osseous tissue; moreover, the softer tissues found in joint cavities within a short time after the occurrence of dislocations are often in some stage of transformation into bony tissue.

8. Sprain-fracture or fractures occurring consistently in experimental dislocations on cadavers afford the most positive

proof of the fact that dislocations are permitted to occur in this way; but failure to demonstrate sprain-fractures or fractures consistently in experimental dislocations on cadavers means nothing, since the stage to which degeneration has advanced determines whether the greater tensile strength remains in the tendons and ligaments or not.

9. Whether the force be suddenly or slowly applied, sprain-fracture or fracture precedes the occurrence of practically all, if not all, dislocations.—(*Annals of Surg.*, October, 1912.)

Renal Varix.

Paul Pilcher of Brooklyn in a thoughtful study of renal varix, concludes:

1. Renal varix is a distinct pathological entity, and may be described as an angiomatous disease of the papillæ renales, whose etiology and pathology resemble that of varicocele, varicose veins of the leg, varicosities at the cardiac end of the stomach, hæmorrhoidal varices, etc.

2. Many of the so-called cases of essential hæmaturia are due to this condition of the kidney.

3. It has its own distinct symptomatology; but it may be impossible to differentiate it, before operation, from hæmaturia due to nephritis and hæmaturia due to renal papilloma.

4. In the majority of cases, at operation, when the kidney has been bisected, no gross pathological lesions will be noted, but on microscopic examination of the papillæ renales a typical angiomatous disease will be found.

5. Renal decapsulation and fixation of the kidney will cure the cases of unilateral hæmaturia due to nephritis.

6. Nephrotomy is the operation of choice, because it allows a thorough examination of the kidney, and also for the reason that it accomplishes exactly what the operation of multiple ligature does in the treatment of varicosities in other portions of the body, in that six of the main connecting and collecting venous radicles of the kidney are severed and permanently closed and the course of the blood stream is instantly changed to the anastomoses at the upper and lower poles of the kidney, and in this way the varicosities are destroyed.

7. The incision should be made along Broedel's line, so as to avoid injury to the arteries.

8. Nephrectomy is indicated only when rapid bloodless operation is demanded, or when nephrotomy fails to relieve the hæmaturia.—(*Surg., Gyn. and Obstet.*, July, 1912.)

Prostatectomy.

G. Kolischer, says that considering that the hypertrophied part of the prostate is always that which is closest to the bladder, it is obvious that the suprapubic method ought to be the one chosen. The fact that the "surgical capsule" is composed of compressed and atrophied glandular tissue furnishes, he says, a point as to the way access should be gained to the tumor to be enucleated. It emphasizes even more the rule that the covering of the prostate, the vesical mucosa, and the "surgical capsule" should not be perforated by boring with the finger but by incision with the knife. He is convinced that operating in the dark has something to do with postoperative hemorrhage. The operator deprives himself of the opportunity of seeing and attending to the small spurting arteries. The digging out of the prostate in the dark, with a good deal of force as a rule, may be a source of still more dangerous hemorrhage. The forcible pulling inside the bladder may lead to the detaching of the anterior part of the viscus from its connections and to the rupturing of the big vein located thereabouts. The preservation of the verumontanum and of the ejaculatory ducts which he claims in his operation can be proven clinically and by ocular evidence. Some patients experience marked increase of sexual power and he has at his disposal seven urethroscopic findings after suprapubic enucleation where the verumontanum and the openings of the ducts could be seen through the urethroscope.—(*J. A. M. A.*)

Medicine

THE VALUE OF AN ANTIPUTREFACTIVE DIET IN THE DIFFERENTIAL DIAGNOSIS OF CONDITIONS PRODUCING HIGH BLOOD PRESSURE.

Persistent high blood pressure is due, says Edward E. Cornwall, to toxemia or mechanical obstruction of the circulation or both, in the great majority of cases. There is only a small proportion of neurotic cases. The differential diagnosis of the underlying pathological conditions in cases showing this symptom has to do chiefly with the relative degree to which arteriosclerosis, chronic nephritis and toxemia enter into them. In a considerable proportion of cases showing high blood pressure physical examination, urinalysis and the investigation of symptoms give negative or inconclusive results. Where arterial hypertension is almost the only distinct morbid sign, we often get valuable diagnostic aid by observing the results which follow the taking by the patient of an antiputrefactive diet. By such a diet is meant one which lessens to a marked degree the putrefaction of animal protein in the digestive tract. This diet removes to a large extent the factor of putrefaction-toxemia of intestinal origin, which is present to a pathological degree in most cases showing high blood pressure, and by so doing greatly restricts the diagnostic field. Practical conclusions may then be drawn as follows:

1. When we give the antiputrefactive diet in a case with persistent high blood pressure and the tension returns nearly to the normal and stays there, we can, as a rule, exclude any considerable amount of chronic nephritis or arteriosclerosis.

2. When the administration of this diet, though it may be followed by great improvement in the other symptoms, fails to bring about much reduction of the blood pressure (fails to reduce it to much below 200 mm. Hg.), we can be reasonably sure that advanced nephritis is present or sclerosis of arteries supplying regions of the body which are of vital importance.

3. When the administration of this diet brings about a notable reduction of the blood pressure, but still leaves it considerably above the normal, considering the patient's age, we may suspect arteriosclerosis or an early stage of chronic nephritis.

The light which the antiputrefactive diet throws on the diagnosis of conditions accompanied by high blood pressure makes it very much easier for us to interpret the other signs and symptoms presented by these conditions; and the administration of this diet is not only valuable as a diagnostic procedure, but it is, in general, the best treatment for such conditions.

The special diet employed by Cornwall has been described by him in the *Med. Rec.*, Dec. 23, 1911, and in the *N. Y. Med. Jour.*, June 20, 1912.—(*The Archives of Diagnosis*, July, 1912.)

Tuberculosis in the Aged.

So great is the death toll from tuberculosis during the early years of life, writes Henry F. Stoll, of Hartford, that we are apt to think of it only as a disease of young people; nearly one-third of those who die are between 15 and 40 years of age. But these figures do not give us any idea of the relative importance of tuberculosis as a cause of death at any one period. That can only be determined when estimations are based on the number living at that particular age. As a matter of fact the total deaths from tuberculosis between 44 and 64 years of age are only one-half what they are between 24 and 44, but when estimated on the basis of 1,000 living at those two decades, the percentage is practically the same. And it is twice as high for those of 65 as for those between 15 and 20. The significance of this fact is not generally appreciated. This disease in the elderly, because of its chronicity and periods of arrest is diagnosed less frequently than at any other time of life. The clinical picture differs considerably from that which we

are accustomed to see in early life. It is apt to suggest merely bronchitis and emphysema. Cough is the chief, perhaps the only complaint. In Stoll's experience nearly half of the old people who have consulted him for cough during the past two years were found to be tuberculous. A valuable diagnostic point is that gagging, due to the severity of the cough, occurs about twice as often with tuberculosis as with all other diseases causing cough combined—pertussis excepted. It seems to be especially common in patients presenting signs of bronchial gland involvement. When an individual has enough resistance to fight a drawn battle with the tubercle bacilli in his early life, the truce may be prolonged many years with only an occasional skirmish to indicate that a complete victory has not been won. It is in these flare-ups when cough recurs that tubercle bacilli are scattered broadcast, often with dire results. Not infrequently it is very difficult to convince the patient that he has tuberculosis, and must exercise great care in the disposal of his sputum. For this reason it is hazardous for children to be in intimate association with them. In conclusion: 1. Pulmonary tuberculosis is not an uncommon disease in persons past 60 pears of age. It has been met with at the age of 99. 2. It is more prevalent than the mortality suggests as an acute pneumonia is often the ultimate cause of death. 3. In persons in the latter decade of life the disease is chiefly characterized by its extreme chronicity and by periods of relatively good health. 4. Many people contract tuberculosis each year from the intimate association with some elderly member of the household who has had a "stomach cough" or "catarrh" for "as long as he can remember." 5. The examination of the sputum of elderly people for tubercle bacilli is a much neglected procedure. 6. The recognition of the pulmonary lesion is often difficult as the typical physical signs are frequently masked by some other condition, notably asthma or emphysema. 7. In these cases the key to the diagnosis will often be found in the interscapular space. The detection of bronchial gland enlargement in adults speaks for tuberculosis rather than chronic bronchitis or emphysema.—(*Boston Med. and Surg. Journ.*, August 29, 1912.)

The Treatment of Pulmonary Tuberculosis By Compression of the Lung.

Mary E. Lapham, of Highlands, North Carolina, reports remarkable results from nitrogen compression of tuberculous lungs. The nitrogen is injected into the pleural cavity until sufficient pressure is obtained to drive the lung up into the smallest possible mass. The lung is then held well compressed by the nitrogen until it heals, when the nitrogen is absorbed and the lung re-expands and resumes its functions. There are different methods of injecting the nitrogen but only one safe one, that of Brauer. A free incision is made, the tissues retracted and the surface of the pleura examined. If it is smooth and glistening and the motion of the lung beneath is seen, the pleura is pierced with a blunt Salomon catheter. If a needle puncture is employed emphysema may be started up in the endothoracic space, the nitrogen running up into the neck, down the arm, or down to the hip. Gas embolism is another danger. However, if a manometer is employed in connection with the needle puncture, one can tell whether the needle is in the pleural cavity by the changes in intrapleural pressure registered by reason of the respiratory movements. A standard of pressure is established in each case and then is maintained as evenly as possible. The method has been used with astonishing success in advanced and supposedly hopeless cases, in which the measures commonly employed have failed. In this class of cases the attempt to save the patients by compressing the lung seems amply justified. The lung gets smaller, the walls of cavities and abscesses are closely approximated and their foul, decomposing contents are forced up through the bronchial tubes and out through the mouth. The lung is made clean and dry and kept so; fibroblasts shoot out from the injured walls of bronchi and vessels, and organize tuberculous lesions into scars, thus obtaining an anatomic recovery of the most durable nature. As the tuberculous processes are extinguished and no more toxins are produced, the temperature becomes normal, the night sweats cease, and the cough lessens. A common result is the disappearance of tubercle bacilli. In uncomplicated cases the results are particularly good. Over 600 cases have already been reported with about 40 per cent. of recoveries. All of these were advanced and hopeless cases. If the pleural surfaces are adherent the method is ineffective. If pleural bands hold the lung out so it cannot be compressed it will also fail. To sum up, the pressure of the nitrogen immobilizes the lung and gives it complete rest; the edematous infiltrations characteristic of pneumonic and progressive cases are restrained. There is a vigorous connective-tissue infiltration that secures an anatomic recovery of the most durable nature so that the danger of a relapse as far as the compressed lung is concerned is minimized. In typically successful cases the results are almost spectacular. Patients with high fever, drenching night sweats, profuse, purulent expectoration, profound cachexia and exhaustion are saved as by a surgical operation.—(*Journal of the A. M. A.*, Sept. 14, 1912.)

Syphilis of the Stomach.

Myers in a careful examination of this unusual malady finds:

1. It is a rare manifestation of syphilis, congenital or acquired, occurring mostly in males, especially in the fourth and fifth decades, but also at almost any age.

2. Its pathology is characterized (1 by multiplicity of lesions in many organs; (2) by variety and plurality of lesions in the stomach itself.

3. Its symptomatology corresponds to the pathological findings; it presents no unanimity of symptoms.

4. There are four symptoms which are, however, fairly common, singly or combined. These are (1) pain, especially immediately after eating; (2) emaciation; (3) tenderness; (4) hemorrhage.

5. Clinically, we should not divide cases of gastric syphilis too strictly, as an exact diagnosis of the form of lesion is often impossible, except by operation or autopsy.

6. We may classify syphilis of the stomach under (1) ulcer in any part of the stomach and its results; (2) gumma in any part and its sequelæ as a tumor; (3) widespread infiltrations of gummatous or more fibrous character leading to deformity, cicatrization, or involvement of the peritoneum or neighboring organs; (4) a combination of two or more of these.

7. The diagnosis is extremely difficult as a rule. If there be a clear history of syphilis, or if the Wassermann is positive, the diagnosis should be comparatively simple.

8. The proper diagnosis is extremely important, as exitus may occur through hemorrhage, inanition, or stenosis, when timely intervention could have cured. Even when properly diagnosed, many of the cases have suffered delays through false diagnosis and treatment.

9. Any form of mercury or the iodides give as brilliant results as are to be found in the practice of medicine.—(*New York State Jour. of Med.*, September, 1912.)

Malignant Pneumococcus Tonsillitis.

L. K. Hirshberg, Baltimore (*J. A. M. A.*, April 20), gives his observations in regard to the recent epidemic of malignant sore throat in Baltimore, with an analysis of the complications in forty-three cases. Thirty of these patients had the cervical glands enlarged and ten had enlarged submaxillary glands. There were two deaths, one of peritonitis and one of septicemia, and the other complications ranged from appendicitis, arthritis, otitis, to simple remittent fever. The most striking clinical picture has been the sharp onset, invasion of the throat, general adenitis, extreme virulent and fulminant type of death in the lethal cases, and the constant presence of the pneumococcus as a possible causative factor. He describes the coccus found by him and its differences from *Streptococcus mucosa*, and identifies it with the pneumococcus. He speaks of the impossibility of proving milk, water or food to be responsible for the spread of the disease.

THE CONNECTICUT WAR MANEUVERS.

Much interest has been expressed in the article on the Connecticut war maneuvers in the last issue of this journal. In amplification of the illustrations in that review of the medical end of the maneuvers, we present some further photographs, taken by one of the medical officers of the army, showing different aspects. In Fig. 1, Col. William Stephenson, sanitary inspector of the division of the East, with Lieuts. H. C. Coe and Richard Slee, is inspecting an ambulance corps of a New York regiment. It is necessary for him to obtain from each

Fig. I. Col. William Stephenson, M. C., and staff on inspection of ambulance corps of National Guard regiments.

ambulance corps and field hospital exact data of the amount of work done, the number of wounded and ill treated, the disposition of each case and every detail which would prove of benefit in keeping an exact record of all cases.

Fig. II shows the chief surgeon, Col. Maus, and Col. Stephenson obtaining information from Lieut. Benjamin D. Foulois, U. S. A., chief of the aviators at the maneuvers, regarding proper places for the establishment of field hospitals.

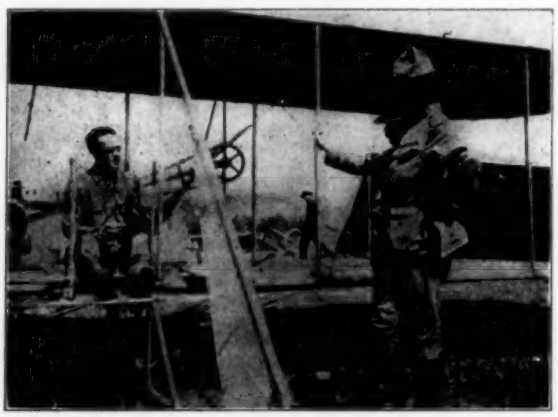


Fig. II. Cols. L. M. Maus and William Stephenson, M. C., obtaining information from 1st Lieut. B. D. Foulois, U. S. A., chief of aerial scouts.

Lieut. Foulois and his assistants were of great value in scouting and they gave their respective sides much accurate information regarding the position of the enemy. Lieut Foulois sustained a hernia while making a descent and after the maneuvers was operated on at the Walter Reed General Hospital in Washington.

In Fig. III are seen two national guard ambulances waiting to transport the wounded to field hospitals. Certain men were supposed to be tagged as slightly wounded and seriously wounded by company commanders, after which they would

Fig. III. National Guard regimental ambulances awaiting to transport imaginary wounded.

be hurried to the hospital by the ambulance corps. Unfortunately many commanding officers did not realize the importance of this work and failed to have the stipulated quota of men properly tagged.

Fig. IV will give one an idea of the army ambulances stationed near a large field hospital on the outskirts of Newtown, Conn. The headquarters of Gen. Bliss, the chief umpire, was on a commanding hill a mile away, and the Blue army occupied

Fig. IV. Eight United States Army ambulances drawn up at a field hospital near the battlefield.

the town. Heavy fighting took place around Newtown and these ambulances figuratively speaking were kept busy during the entire engagement. The lesson of the maneuvers was that the National Guard of the various States engaged must pay more attention to its hospital corps and keep it recruited up to full strength at all times.

The Clinical Congress.

Every indication points to a large meeting for the third session of the Clinical Congress of Surgeons of North America to be held in New York November 11th to 16th.

The completed program is comprehensive in its scope and extremely attractive from a scientific standpoint. Naturally, the most attractive feature to surgeons is the enormous clinical schedule.

In the list of clinicians will be found the names of the leading surgeons of New York City and Brooklyn, and in the list of institutions that have opened their doors to the Congress are the leading hospitals and medical schools of the two cities. Every branch of surgery is covered. One specializing in general surgery, gynecology, obstetrics, genito-urinary surgery, orthopedics, surgery of the eye, ear, nose or throat, will find enough actual surgical work along any one of these lines to keep him busy from morning to night each day of the session. For the evenings there will be six literary sessions at which papers dealing with subjects of live surgical interest will be read by prominent surgeons of America and Europe, and these will be discussed by New York surgeons.

Public Health

THE HYGIENIC CONGRESS.

All things considered, the Fifteenth International Congress on Hygiene and Demography, held in Washington, was a great success. The great number of papers presented in every section prevented sufficient discussion, but great good is certain to follow the international interchange of ideas.

Among many theories, obiter dicta, and opinions drawn from experience, which passed through the clearing house of hygienic discussion at the Congress were the following:

Dr. Frederick Novy of the University of Michigan: The discovery of a minute micro-organism for use in the prevention of bubonic plague by feeding to rats. It is still in the experimental stage and its place in preventive medicine is not determined.

Drs. J. F. Anderson and Joseph Goldberger, U. S. P. H. Service: Insects' bodies are carriers of typhus fever, a proposal disputed in the congress; also that sneezing carries the germs of measles.

Sir Thomas Oliver, of England: Mine explosions can be reduced through the use of a new chemical, which absorbs coal dust, but he did not disclose its name.

Dr. M. J. Rosenau, of Harvard Medical School: Infantile paralysis is carried through the bite of the ordinary stable fly.

Dr. Warren Poor, of New York City: Gland virus is better as an anti-toxin for rabies than brain virus.

Dr. John H. Long, of Chicago: Benzoate of soda in food preparations is not harmful, despite the conclusions of Dr. Harvey W. Wiley.

Dr. A. J. Petersen, of Sweden: Infantile paralysis is carried from person to person through the secretions of the nose.

Dr. S. Adolphus Knopf, of New York: Fully 600,000 school children in the United States have traces of tuberculosis.

Dr. Jacques Bertillon, of Paris: Farmers are the most healthy class of humanity, and the liquor dealers the most sickly.

Dr. Lafayette Mendel, of Yale: Dwarfs can grow, no matter how long the stunted condition has existed.

Dr. Woods Hutchinson, of New York: The child should make its own moral code and have any kind of food it wants when it wants it.

Dr. Charles V. Chapin, of Providence:, R. I. Infection by the air is no longer the chief factor in the spread of infectious diseases.

Nathan Straus, of New York: All milk fed to babies should be pasteurized to insure healthy milk being fed to children.

Dr. Anna Woolstine, of New York: Immunization from influenza meningitis can be obtained through the virus of the serum of persons suffering from the disease.

Dr. C. C. Bliss, of New Orleans: Malaria fever parasites can be produced artificially, thus opening the way for the prevention of malaria fever.

Dr. Walter Fornet, of the German Army: Specific yellow fever parasites exist. (Dr. Fornet claimed to have discovered this parasite. American army officers dispute his contention.)

Dr. Francis M. McCrudden, of the Rockefeller Institute: Bone is not dead tissue, but is constantly changing, and new bone is being constantly laid down.

Edward Burrell Phelps, of New York: Infant mortality throughout the world is on the decrease, despite increased population and birth rate.

Dr. Herbert D. Pease, of New York: Oysters in their raw state during non-hibernating periods are not carriers of contagious disease.

Dr. W. L. Moss, of Johns Hopkins University: Inoculation of persons known to be bacilli carriers is entirely impracticable.

Dr. William T. Sedgwick, of the Massachusetts Institute of Technology: Contagious diseases are spread through the pollution of railroad beds; therefore there should be laws for regulating their use.

Dr. Charles Gilmore Kerley, of New York: Heredity has nothing to do with the character of the child; it is the child's environment which is the determining factor in character building.

Dr. Yandall Henderson, of Yale: Soap is the greatest civilizer of mankind.

Dr. Gardiner C. Bassett, of Johns Hopkins University: Reading and writing are unhygienic.

Dr. L. E. Cofer, of the United States Public Health Service: The Panama Canal will be a meeting place for yellow fever, plague and contagious diseases from East and West, from North and South America, as well as from Asia.

Dr. John N. Hurty, of Indianapolis: Rural communities eat too much fresh meat, and bathtubs in farmhouses are as scarce as honest trusts.

Maj. Bailey K. Ashford, U. S. Army: Walking in the wet in bare feet is apt to bring on hookworm disease.

Dr. Victor C. Vaughan, of Ann Arbor: The non-poisonous tubercle bacillus is an effective vaccine for tuberculosis.

Bleecker Van Wagenen, of New York: Ten per cent. of the entire population of the United States are inherently defective and unfit to be parents.

Dr. L. Pierce Clark, of New York: Luxury, prosperity and civilization are leading causes of degeneracy, and must correct themselves.

Dr. Armand Delille, of Paris: Tuberculosis is not hereditary, but exclusively contagious.

Dr. W. G. Ebersole, of Cleveland: Ninety-seven per cent. of public school children have diseased or defective mouths. Decay of the teeth is the most prevalent disease known to modern civilization.

Dr. L. Caozzi, of Milan: The average span of life for printers is very low. The highest death rate among them is between the ages of 16 and 35.

Human Life As a National Asset.

In the course of an address on this subject before the National Conservation Congress in Indianapolis, October 2, Mr. E. E. Rittenhouse, conservation commissioner of the Equitable Assurance Society, said:

The primary duty of conserving our human assets resting with the state, it is obvious that the state must lead in the national movement. It is, therefore, the first duty of every individual and of every unofficial organization interested in this efficiency and life-saving campaign to rally to the support of the public health service. We must not only teach the individual how to guard his life against preventable disease and accident, we must educate our communities to the need of an effective public health service to enforce sanitary regulations and otherwise guard the health and lives of their members. But it takes money to carry on a great educational movement, and it takes money to conduct the public health service.

The war against preventable disease and death is, in the final analysis, a struggle between the dollar and the death rate. So far the dollar is ahead. The body politic seems still to prefer a high death rate to a slight and temporary increase in the tax rate.

"How much," says the American taxpayer, "will it cost to reduce this annoying death rate to the lowest possible limit?"

"About $1.50 per capita at first, much less later on," answers the health officer, "and you will gain immeasurably by the increase in the wealth and happiness of the community."

"Very well," says the taxpayer, "here is 25 cents; we will save two bits' worth of these lives. The rest will have to die. We have much more important places for our money; we must improve the streets and roads, beautify our cities with much-needed parks and public structures. We must improve our harbors and rivers, build canals, and encourage commerce generally. Besides, we are absolutely obliged to use about two and a half billion dollars this year for automobiles, jewelry, candy, alcoholic drinks, tobacco, diamonds and other urgent needs of life. What is the loss of a few hundred thousand lives compared to these vital necessities?"

And so the health officer plods along with his two-bit appropriation and naturally runs a two-bit health service. His own fitness and efficiency may be 100 per cent., but the effectiveness of his department only 15 per cent., because of the 25-cent limit.

Of all the money provided by the people for the expenses of the National Government, only about 1.3 per cent. is used for the conservation of health and life. Our national health corps has an international reputation for efficiency and achievement. They have not only jeopardized their lives, but numbers of them have sacrificed health and life in the performance of duty. Through their discoveries in the science of prevention they have been the means of saving thousands of lives, not only for one year but for all years to come. And yet, when it is proposed to co-ordinate the various public health activities of the Government in order to increase the efficiency and usefulness of this splendid body of men, the interest of our countrymen in this service seems to end with admiration.

The same lack of practical support of the public life-saving service exists in most of the states. The appropriations for the public health work of our state departments can only be characterized as trifling. The exception is Pennsylvania, which has an appropriation of about 48 cents per capita. Arkansas makes none at all, the State of New York spends about 1.7

cents; Massachusetts, 4.2; Florida, 10; Indiana, 1.8; Kansas, 2.7; Virginia, 1.9, and so on.

We have many cities with active and efficient health officers, but there is not a city in this country with an adequately equipped and financed health department. Not one of them has sufficient financial support to successfully perform its task.

In 1911 fifty of our important American cities, with an annual preventable death list of 117,724 people (which means an economic loss of at least $200,000,000 spent through their public service to prevent life waste an average of 30 cents per capita, and through their fire departments to prevent fire waste $1.63 per capita.

Here are a few examples: Providence, R. I., spent for health conservation 11 cents, for fire prevention $1.99 per capita; Portland, Ore., health 13 cents, fire $1.91; Minneapolis, health 14 cents, fire $1.67; Louisville, health 12 cents, fire $1.36.

In 1910 184 American cities could spare but 2 per cent. of their total public appropriations for the public health service—the average per capita expenditure was 33 cents. Seventy-one of these 184 cities spent less than 15 cents per capita for the public health, and among these are such cities as Quincy, Ill., 2 cents; Lansing, Mich., 5 cents; Rockford, Ill., 6 cents; Scranton, Pa., 7 cents; Bridgeport, Conn., 9 cents; Portland, Ore., 10 cents; Harrisburg, Pa., 12 cents; Jersey City, N. J., 13 cents; Springfield, Ill., 14 cents.

There are many of our largest cities that are well below the average of 33 cents per capita. Among them: Toledo, 15 cents; St. Paul, 17 cents; Minneapolis, 18 cents; Indianapolis, 20 cents; Kansas City, Mo., 20 cents; Milwaukee, 20 cents; Cincinnati, 21 cents; Chicago, 22 cents; St. Louis, Mo., 26 cents; Buffalo, 27 cents; San Francisco, 28 cents.

The city of New York has an ably administered health department, but it has only 30 inspectors to supervise over 27,000 food-dispensing establishments. The request of the health officer for an inspection force of 209 men has been steadily ignored for years.

How do you suppose the meat ordinances of Philadelphia are enforced, where the people allow the health department but seven inspectors to watch over 8,000 meat shops and slaughter houses?

How can the eight pure food inspectors in Kansas be expected to enforce the pure food laws in the drug and grocery stores, the meat shops, bakeries, etc., in 800 towns These inspections must be made frequently to be of any value. These are unpleasant facts, but they give us an idea of the way we are performing the primary function of government—the guarding of human life against avoidable destruction.

We have now considered the extent of the waste of the most vital asset of the nation, and how we are conserving it. Now let us rejoice over the fact that we not only know how to reduce this waste, but that, thanks to those who have aroused the life conservation sentiment in this country, a general improvement in the public health service is taking place in many states and cities. Every business and social organization should do its full share of this work. The life insurance institutions of this country have a constituency of 25,000,000 policyholders. These policyholders are directly interested in the promotion of longevity, not only from the humanitarian but from the financial viewpoint; for the lower the mortality among policyholders, the greater will be the saving and the larger the dividends to policyholders, which means a reduction in the cost of their life insurance. It is estimated that about $50,000,000 is lost annually by postponable mortality among the insured.

The Equitable and Metropolitan are conserving the lives of policyholders and stimulating community action, and two or three smaller companies have given the matter attention. Human life is our paramount asset.

Conservation of life was the keynote of the convention. In the course of his remarks Dr. H. W. Wiley said:

"What is in sight in the way of the prolongation of life? Is there any hope to be offered to man of greater freedom from disease and of a longer life? I answer unhesitatingly in the affirmative. Why should he be content with an average life of 44 years? There is historical evidence to show that man's greatest activities are developed with experience, and that the age between 60 and 70 is more productive for one who has lived in accordance with nature. It is shown from statistics that we die 16 years before we reach the maximum usefulness of man. I would like to see more old age. I would like to see more men and women with gray hair and more wrinkled faces than I see to-day.

"To all this objection may be made that a place must be made for the young man and young woman; that the old man and woman keep the young from development and usefulness. But to this I reply that there is infinite opportunity for good work offered to all. If we can secure a race free from disease, endowed with all those qualities of mind and body which make for human efficiency, we need not ask that everyone become eminent and wealthy, but each can perform the duties which come to him in a way to develop a uniform excellence of the human race."

Dr. Irving Fisher of Yale, speaking of the Swedish achievements in national hygiene, said:

"Probably the greatest hygienic achievement of any country thus far is that of Sweden, where the duration of life is the longest, the mortality the least and the improvements the most general. There alone can it be said that the chances of life have been improved for all ages of life. Infancy, middle age and old age to-day show a lower mortality in Sweden than in times past, while in other countries, including the United States, although we can boast of some reduction in infant mortality, the mortality after middle age is growing worse and the innate vitality of the people is, in all probability, deteriorating.

"In the United States public health has been regarded almost exclusively as a matter of protection against germs; but protection against germs, while effective in defending us from plague and other epidemics of acute diseases, is almost powerless to prevent the chronic diseases of middle and late life.

"These maladies—Bright's disease, heart disease, nervous breakdowns—are due primarily to unhygienic personal habits. Medical inspection and instruction in schools, as well as Swedish gymnastics, have aided greatly in the muscular development of the citizens of Sweden. Swedish hard bread has preserved their teeth. The Gothenburg system is gradually weaning them from alcohol. There has even been a strong movement against the use of tobacco.

"There are three great agencies to which we must look for the saving of human life in the future, and it has been the object of the Committee on One Hundred on National Health, of which I am president, to help stir these three agencies into activity in this country. They are the public press, the insurance companies and the Government. A few years ago popular articles on public health were seldom seen, because the public and the press thought the subject of disease uninteresting and repulsive. To-day, on the other hand, one can scarcely pick up a popular magazine without finding not only one but several articles dealing with questions of public health.

"Life insurance companies can save money by preventing deaths, just as fire insurance companies have saved money by preventing fires and steam boiler insurance companies have saved money by preventing explosions. We need a national department of health of a department of labor which shall include in its operations the conservation of human life. We need first of all to do what Sweden has done for 150 years—namely, to establish proper vital statistics."

"One of the most encouraging symptoms of progress is the great attention which is being paid to public health in the present political campaign. All three of the party platforms included planks in behalf of public health."

Dr. J. N. Hurty, secretary of the Board of Health of Indiana, and president of the American Health Association, declared that "patent medicines are more dangerous than dynamite, and the sale of them should be more restricted. They are composed chiefly of alcohol," he declared, "and if alcohol could cure, this earth would have been rid of disease ages ago."

Antityphoid Vaccination.

Dealing with this important subject in the *J. A. M. A.*, Major Russell of the U. S. Army concludes as follows:

1. Antityphoid vaccination in healthy persons is a harmless procedure.
2. It confers almost absolute immunity against infection.
3. It was the principal cause of the immunity of our troops against typhoid in the recent Texas maneuvers.
4. The duration of the immunity is not yet determined, but is assuredly two and one-half years, and probably longer.
5. Only in exceptional instances does its administration cause an appreciable degree of personal discomfort.
6. It apparently protects against the chronic bacillus carrier, and is at present the only known means by which a person can be protected against typhoid fever under all conditions.
7. All persons whose profession or duty involves contact with the sick should be immunized.

Cases of arterio-sclerosis may eventuate in fibroid degeneration of the heart with general failure of the circulatory powers, or may culminate in angina pectoris, or more often in cerebral hæmorrhage, more rarely in aneurism.

The Physician's Library

The Pituitary Body and Its Disorders. Clinical States Produced by Disorders of the Hypophysis Cerebri. By Harvey Cushing, M. D., Associate Professor of Surgery in the Johns Hopkins University; Professor of Surgery (Elect) in Harvard University. An Amplification of the Harvey Lecture for December, 1910. Cloth, 341 pages, 319 Illustrations. Price, $4.00. Philadelphia and London: J. B. Lippincott Co., 1912.

The pituitary body is receiving a considerable amount of attention. It has long been recognized that abnormal hypertrophy of the body causes acromegaly, and the cause is believed to be an increase of an internal secretion into the blood, which influences growth. That the pituitary body is essential to life has been demonstrated by Cushing, Paulesco and Sir Victor Horsley, who found that its removal caused death. It was shown that removal of the anterior lobe brought about the same result, but removal of the posterior lobe had no such effect.

Cushing's exhaustive study of this gland will prove of far-reaching importance, for it touches to a certain extent the work of the ophthalmologist, naso laryngologist, neurologist, pediatrist, gynecologist and obstetrician.

Cushing finds that pituitary disorders can be readily recognized and that discovered in time can be taken in hand to the advantage of the patient. The treatment consists in operation, the administration of glandular extracts and in symptomatic medication.

The book is like Gaul divisa in partes tres. The first takes up the anatomy, physiology, pathology and chemistry; the second the clinical manifestations of disordered function, with an exhaustive history of 47 cases, and the third incidence, symptomatology and treatment, which includes the results of operative procedure in 43 cases. The bibliography includes 256 references.

It may be said without contradiction that Cushing's work on this subjection is the most authoritative ever published. His clinical advantages at Johns Hopkins gave him a wealth of material upon which to work, and his researches are certain to prove of unending benefit.

A pleasing touch of sentiment is given to the book in its dedication to three physicians, the author's grandfather, father and brother, if we mistake not, Erastus Cushing, 1802-1893; Henry K. Cushing, 1827-1910; Edward F. Cushing, 1862-1911.

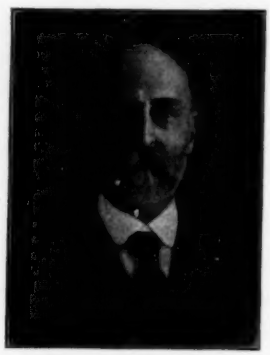
HARVEY W. WILEY, M D., PH.D.

Harvey W. Wiley, M.D., Ph.D., is one of the best known medical men in America. He is the father of the Pure Food movement in this country, and it was through his instrumentality that the present pure food bill was passed. Dr. Wiley was for years Chief Chemist of the U. S. Department of Agriculture, and now is at the head of *Good Housekeeping's* Pure Food Bureau. He is the author of Foods and Their Adulteration and other work and is an authority on all food subjects. The doctor is also a member of the Council of Pharmacy and Chemistry of the American Medical Association.

Muscle Spasm and Degeneration in Intrathoracic Inflammations and High Touch Palpation. Francis M. Pottenger, M. D., of the Pottenger Sanitarium for Diseases of the Lungs. Cloth, 105 pages. Illustrated. Price, $2.00, net. St. Louis: C. V. Mosby Company, 1912.

The author, who is recognized as an authority on diseases of the lungs, has worked out a new theory on muscle spasm. The muscular degeneration noticeable in tuberculosis he ascribes to irritation of the cells in the segments of the cord from which the nerve fibres supplying the muscles take their origin, as a result of the stimulation coming through the sympathetics from the inflamed lung. Therefore an inflammation of the apex of the lung will show itself in a reflex spasm of the neck muscles, causing atonic contraction. Both superficial and deep muscles are involved, and long continued irritation brings about the degeneration and muscular contraction.

Pottenger's ideas are new and have apparently the earmarks of clinical value and are worthy of more careful study on the part of men who are interested in tuberculosis.



CHARLES H. KNIGHT, M.D.

Charles H. Knight, M. D., author of Diseases of the Nose, Throat and Ear, is a famous specialist in his particular branch of medicine. He is Professor of Laryngology in Cornell University Medical College, surgeon to the Throat Department of the Manhattan Eye and Ear Hospital, and is a member of the American Laryngological, American Medical and American Therapeutic Associations, the State and County Societies of New York, the New York Academy of Medicine, and is an alumnus of Roosevelt Hospital.

Laboratory Methods. With Special Reference to the Needs of the General Practitioner. By B. G. R. Williams, M. D., member of Illinois State Medical Society, American Medical Association, etc., assisted by E. G. C. Williams, M. D., formerly Pathologist of Northern Michigan Hospital for the Insane, Traverse City, Michigan; with an Introduction by Victor C. Vaughan, M. D., LL.D., Professor of Hygiene and Physiological Chemistry, and Dean of the Department of Medicine and Surgery in the University of Michigan. Cloth. 205 pages. Illustrated with forty-three engravings. Price $2.00 net. St. Louis: C. V. Mosby Company, 1912.

With the elevation of medical standards there is an added demand for increased efficiency on the part of the general practitioner, and such books as this are of the greatest assistance in meeting that demand.

In simple language the authors have made clear the uses of the laboratory and have reduced the technic to such a plain basis that any country physician can have in his office an equipment that will enable him to do his own laboratory work. Indeed, so fascinatingly has the story been told that the reviewer almost regrets that a close association with a laboratory makes it unnecessary for him to carry out the excellent suggestions of the book.

Williams shows that the physician can equip a useful little laboratory for bacteriological work for $5, with the exception of the microscope, and he portrays by means of illustrations, as well as text, the apparatus necessary for urinary, blood and bacteriological work.

The authors show the physician how to make the Diazo and Widal reaction tests, how to locate the treponema, how to analyze water, milk, urine and stools, besides going into various subjects which will prove of assistance to him in every day practice.

This book should be earnestly studied by every man who is ambitious to be a correct diagnostician and does not care to depend upon the city laboratory.

(*Continued on page* 18.)